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SAMPLES AND LITERATURE ON REQUEST.

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American Journal of Surgery and Gynecology.

VOLUME XIII. ST. LOUIS, MO., JANUARY, 1900. NUMBER 7.

REMOVAL OF THE SUPERIOR MAXILLA, TURBINATEDS, PALATE, VOMER AND PARTS OF THE ETHMOID AND MALAR FOR OSTEO-SARCOMA—DEFORMITY RELIEVED BY OBTURATOR —EIGHT YEARS WITHOUT RECURRENCE.

BY EMORY LANPHEAR, M. D., PH. D., LL. D., ST. LOUIS, MO.
Formerly Professor of Operative Surgery in the Kansas City Medical College and Professor of the Principles and Practice of Surgery in the St Louis College of Physicians and Surgeons.

Chris W., of Burlington, Kan., about 32 years of age, of previous good health and excellent family history, received a blow upon the cheek about 1890. He was brought to All Saints' Hospital (Kansas City), January 5, 1892, by his physician, Dr. S. J. Neiberger. Examination showed him to be suffering from advanced malignant disease of the upper jaw. The disease had begun some six months before, apparently as a tumor of the left antrum. The trouble progrest rapidly, causing intense suffering—so severe, in fact, that for four weeks prior to admission to the hospital he was compelled to take grain doses of morphine at frequent intervals. For several weeks there had been evidence of chronic sepsis: fever, rigors, etc., with markt loss of weight—the latter, however, probably due in great part to loss of appetite from the sickening fetor of the discharge, which came from the nostrils and from the posterior nares.

A diagnosis of probable osteo-sarcoma was made; with a fatal prognosis either with or without operation. The patient bravely enquired: "Have I one chance in a thousand for recovery by operation?" Upon being told "possibly" he exclaimed: "I'll take it."

Operation was performed January 7, 1892, Dr. T. B. Thrush acting as assistant.

An incision was made from the zygoma across under the eye, downward along the side of the nose, around the ala and down the middle of the lip. On reflection of this flap and careful inspection of the mass it was found that the disease involved the nasal septum, and probably extended into the structures far to the right of the median line; so the lip and nose were cut from their attachments and turned to the right out of the way. The nasal bones (found not to be affected) being separated with bone forceps from their attachment to the superior maxilla, the frontal and the perpendicular plate of the ethmoid, were also turned upward and outward with the nose, thus preserving in fair shape the bridge of the nose—as shown in the photograph. Fortunately, the left malar was not implicated, so a part was allowed to remain to preserve, as far as possible, the contour of the face. With a narrow saw the malar was divided, then Liston bone forceps were introduced at the point already cut at the nasal process and this part of the maxilla and the orbital plate were cut across—leaving a small portion of the nasal process, the posterior part of the orbital plate and the lachrymal bone, these not being affected by the disease. Remembering Holmes's statement that "want of completeness in operating is a most disastrous feature of this procedure," I determined to remove every trace of the disease. The bone-cutters were, therefore, turned in the opposite direction and carried into the antrum of the right side, thence down the external plate of the superior maxilla to the roof of the mouth, and the cut quickly carried back to the soft palate. The bone was then firmly grasped with the lion-tooth forceps and forced downward; then the cutting forceps were again inserted in the upper part of the wound and the perpendicular plate of the ethmoid severed, the vomer detacht from its articulation with the spnenoid and the upper part of the palate bone cut across below its orbital surface; finally, by a rocking motion, these parts of the superior maxillæ, malar, vomer, turbinated, palate and ethmoid were torn from the remaining attachments, the soft palate being cut with scissors. The huge cavity thus formed was speedily packt with iodoform gauze and the soft parts carefully sutured into place.

Convalescence was exceedingly satisfactory. Relieved of his sepsis and the ugly discharge, the patient rapidly gained in weight—twenty pounds in the three weeks' stay in the hospital—and returned home to soon resume his work as an officer. For some weeks the cavity was kept filled with gauze, which enabled him to talk fairly well and to eat. When the surfaces were entirely well a dentist made an obturator with an upright plate so made as to fit snugly between the remnants of the facial bones, and with a horizontal plate carrying teeth; so the man now eats without trouble and articulates well enough to be understood without difficulty. The perfection with which the vertical plate holds the face in position is shown in the photograph.

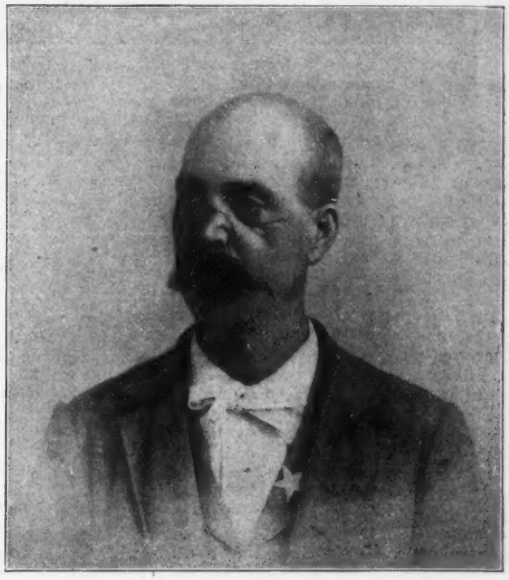


FIG. 1.—Photograph taken six years after operation for osteo-sarcoma of upper jaw.

There is now—after eight years—no sign of return.

FIG. 2.—Showing plan of obturator and teeth.

Microscopic examination of the growth showed giant-celled sarcoma, apparently springing from the anterior wall of the antrum—the site of the original trauma. The character of the neoplasm probably accounts, far more than my extensive operation, for non-recurrence; Holmes (System of Surgery, Vol. III.) saying: "All forms of sarcoma, which have been studied by Gross in the long bones, do occur in other parts of the skeleton—notably, the jaws and cranial bones. In the jaw bones we have a great many instances of the giant-celled sarcomata, and these often give the most satisfactory results, while the small-celled sarcoma and the spindle-celled periosteal tumors are apt to be fatal."

THE SURGERY OF INGUINAL HERNIA.*

BY W. V. MORGAN, M. D., INDIANAPOLIS, IND.
Consulting Surgeon to the Indianapolis City Hospital, to the Protestant Hospital, to the Deaconess Hospital, and Union Station Hospital, and to the City Dispensary of Indianapolis; Professor of Oral Surgery and Electrical Science in the Central College of Dentistry; President Mitchell District Medical Society.

In 1888, Bassini reported to the Congress of Italian Surgeons the operation which bears his name, but an American, who stands pre-eminent in urging the practicability of hernial operations and demonstrating the technic of their performance, Dr. Henry O. Marcy, of Boston, presaged all the useful elements of the Bassini operation by at least ten years. This Nestor of hernial therapeutics, by his surgical work and his scholarly writing, has done, perhaps, more than any other surgeon to take hernial operations from the realm of doubt and to place them upon a scientific and lasting foundation.

The surgery of hernia is so definite that its mortality in uncomplicated cases is practically nothing, and its success in securing a permanent cure should amount to at least 90 per cent.

*Abstract of paper read before the White River District Med. Society; prepared by the author for *American Journal of Surgery and Gynecology.*

All operations for hernia should be considered as intra-peritoneal, and no one should essay them until he has sufficiently mastered the principles of asepsis as to be sure of preventing suppuration. When a hernial wound becomes infected the operation from that moment is a failure, and any attempt at patchwork is the sheerest folly.

The incision for the exposure of rings and sac should extend from at least one-half inch above the position of the internal ring downward to the level of the pubic bone.

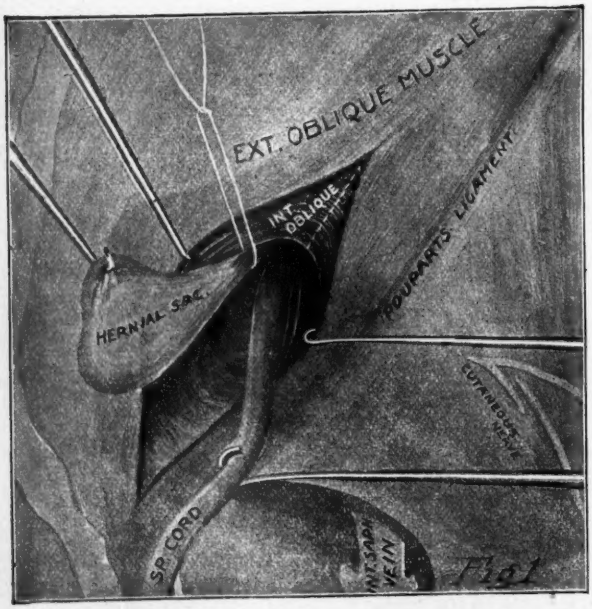
Emergency operations are less successful than those of election, by reason of the limited time for preparation, the diminisht resistance of the tissues, due to diminution or absence of blood supply, and the infection of the parts by the colon bacillus or other micro-organisms.

The increast exudation caused by pressure paralysis of the vaso-motor nerves, and the strong probability of infection, make drainage almost a matter of necessity in the latter class of cases.

After exposure of the hernial sac, its isolation can be accomplisht in one-third the time that would otherwise be consumed, if the dissection be begun at its neck and be carried downward. This maneuver is greatly facilitated if the hernial contents be not first reduced.

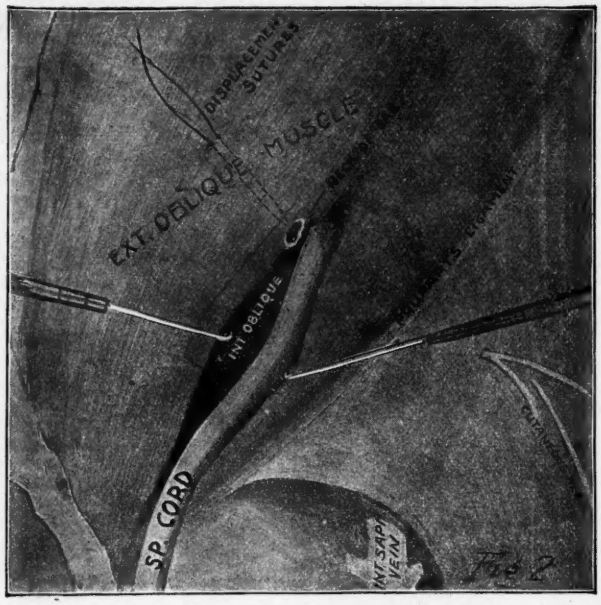
In the final disposition of the sac, but two methods, or some modification of them, are worthy of consideration, viz.: that of Czerny and of Kocher. The first method consists in freeing the sac to the internal ring, ligating and cutting it away. The method of Kocher, after freeing the sac well within the internal ring, leaves it intact until it is drawn taut thru a newly made opening in the external oblique aponeurosis externally to the internal ring, laid parallel to Poupart's ligament and sutured; then all that part of the sac which reaches below the external ring is ligated and severed. Kocher's method draws the peritoneum smoothly across the space previously occupied by the neck of the hernia.

I have devised a method which embraces the advantages of both the foregoing. It consists in lighting the sac well within the internal ring with animal ligatures, cutting away the sac, threading the ends of ligatures upon an aneurism needle, and passing them thru the abdominal wall from within outward internal to the internal ring, and tying them in such a way as to displace the stump of the sac inwardly. (Figs. 1 and 2.)



This modification secures the smooth peritoneal surface over the site of the internal ring, and yet obviates the sloughing of the sac, which sometimes occurs in Kocher's older method.

The chief point of interest in all radical operations for hernia must center about the point where the spermatic cord leaves the abdomen. Here the peritoneum is dimpled into the infundibula-firm fascia in its attempt to line the inguinal canal, thus inviting an intrusion of the abdominal contents. Rendering this point impregnable to visceral assaults is curing hernia. The accomplishment of this would be an easy problem if it were not for the spermatic cord; but, with existing conditions, it has taxt the ingenuity and the dexterity of the best surgeons. Whenever there is the slightest yielding of the transversalis fascia and peritoneum at the internal ring, the forces necessary to make a complete inguinal hernia are brought into service. The intruding viscera acts as a wedge in the opening, and proportionate to the size of the wedge its power increases until at last the resistance becomes less than the power and the hernia becomes complete.



The spermatic cord being prest upon, the incoming currents of blood and semen are retarded, and the necessary increase of their vessels pressing from without, co-operate with the forces acting from within and help to increase the potency of the opening.

If the cure of the hernia be the only consideration, it may readily be accomplisht by the removal of the cord and the occlusion of the internal ring. Or, if castration be objected to, transplantation of the testicle may be practist. When continued pressure, or disease, has rendered the organ useless, there is no sufficient reason why it should not be removed, the cord severed within the internal ring, and then ring and canal be obliterated by careful suturing. It is important, however, that before such an operation be done the surgeon should secure the written consent of the patient or his legal guardian.

The method of Dawbarn consists essentially in detachment of the transversalis fascia and peritoneum from the abdominal wall below the internal ring, and bodily transplanting testicle and cord into this new pocket. The testicle is thus inside the abdominal walls, but outside the peritoneum, remains physiologically active, and is so disposed as to allow of the thoro closure and fortification of the formerly weakened spot.

Lanphear has recently suggested that in cases of congenital hernia both testicle and sac may be placed within the abdomen.

The ancients were aware of the greater facility with which hernia could be cured by castration, and a hundred years ago asexualization had been carried to such extremes that interdiction of the law became necessary.

In proper cases I have resorted to castration and to Dawbarn's method, with gratifying results in each.

Halsted has shown that two small veins are sufficient to maintain the circulary balance in the testicle, and hence he advises the resection of all veins above this number. Inasmuch as the turgescence of the veins is due to pressure of the hernia, and is usually relieved when the pressure is removed, such excision is not necessary unless the dilatation or varicosity be extreme. However, in old hernias associated with varicose veins and much dependency of the testicle, the veins should be dealt with according to the method of Halsted. the testicle suspended permanently from the infra-pubic ligament by means of a few sutures, and the scrotum shortened.

The difference between forming a new inguinal canal and reforming an old one is the difference between what is popularly known as the method of Halsted and the method of Marcy or Bassini.

In the Halsted operation the spermatic cord is placed in front of, and in the Marcy-Bassini operation the cord is left behind, the aponeurosis of the external oblique muscle.

The obliquity of the inguinal canal is best restored and maintained by lifting the cord from its bed and stitching the conjoined tendon, transversalis fascia and inner muscles firmly to the shelving process of Poupart's ligament, until the internal ring is placed at least one and one-half inches upward and outward from the site of the external ring. In this way, instead of the internal ring being formed simply of transversalis fascia, we convert it into a musculo-tendinous aperture.

With certain modifications, I believe Halsted's method for the radical cure of hernia to be the best. It effectually disposes of the areolar tissue planes, which are so easily separated, and substitutes a short and direct route thru strong muscular and aponeurotic tissues. That incision thru such tissues is followed by the best and strongest union is proved by the later methods of performing abdominal sections.

Formerly, when the rule was to make incisions thru the linea alba, post-operative hernias were quite common; but now that the opening is most frequently made thru a rectus muscle, such hernias are infrequent.

If in replacement of the cord according to Halsted's suggestion it is found that the abdominal walls are in any way deficient, various expedients may be employed to strengthen them. When the internal oblique and transversalis fail to have their normal length of origin from Poupart's ligament, they should be sutured to the ligament as taught by Bassini. When the external oblique is also weak, additional security may be afforded by splitting the sheath of the rectus muscle, displacing a portion of the muscle, and suturing it to Poupart's ligament in such way as to fortify the weakened parts. This method has recently been revived by, and received the name of, Lovegood; but the credit for the suggestion should be given to Wolfler, who carried the idea into execution several years ago. In order to displace the cord still further upward, I have in several instances split the internal muscles vertically, placed the cord in the breach and united the muscles below them.

In an analysis of 211 cases in Johns Hopkins University, it was shown that in six of the seven recurrences the breach began in the upper angle of the wound, and in many other instances it is recorded that the recurrences began by a splitting of the fibers of the external oblique muscle.

To obviate this difficulty by strengthening the weak spot, I proceed as follows: After disposal of the cord and the deeper muscles, as heretofore suggested, I cut an aponeurotic strip one and one-half inches long and from one-fourth to three-eighths inch wide, from the inner pillar of the external ring, beginning on a level with the place whence I desire the cord to emerge, detaching the strip from below upwards. This strip is past under the cord and secured to Poupart's ligament by plaiting and sutures. (Fig. 3.) The

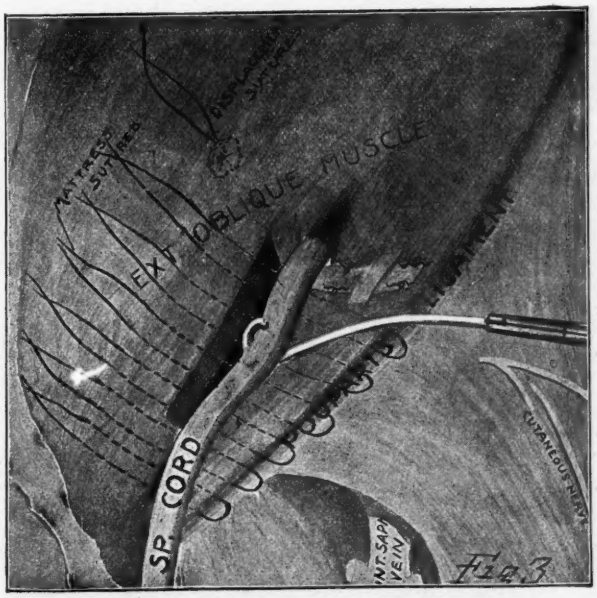


Fig. 3.

remaining opening in the external oblique and its aponeurosis is now closed with mattress sutures, and the skin sutured in the usual way. (Fig. 4.) One thus makes as small a ring as one desires, and surrounds it with strong fibrous tissue capable of indefinite resistance.

The question as to the best material for suturing those parts upon which most stress is thrown I consider to be still an open one. If methods were known by which catgut or kangaroo tendon could be made definitely strong and enduring, the question would be solved, but with the present uncertainty in their preparation, I believe silver wire to be the best available suture.

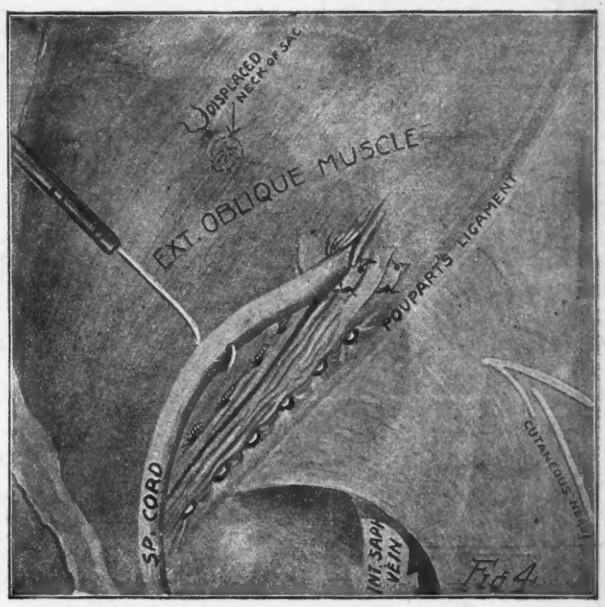


Fig. 4.

Summarizing the points in the operation for hernia, to which I wish to direct attention, they are:

(1) The best method of displacing the neck of the hernial sac; (2) The method of surrounding the ring with a strong aponeurotic band; and (3), Suspension of the testicle and shortening of the scrotum as a part of the hernial operation.

In conclusion (excluding those cases of hernia in children which are usually cured with a truss), I wish to commend the words of Kocher when he says: "The results obtained lead us to conclude that it is not only right, but the duty of every physician, to advise the radical operation in all cases of inguinal hernia in which extraordinary size, incarceration or inflammation is not present as a complication, or in which disease of vital organs or weakness or old age does not form a contra-indication."

REPAIRS OF OLD LACERATIONS OF THE PERINEUM.*

BY MALCOLM L. HARRIS, M. D., CHICAGO, ILL.
Professor of Surgery in the Chicago Policlinic.

Anatomic studies and investigations, together with clinical experience, have convinced me that much that has been written on surgery of the pelvic floor has been based on imperfect knowledge of the anatomy and mechanics of the parts. Nor is this surprising when it is seen how lamentably defective the text-books on anatomy are in the description of this region.

The old idea of a central perineal body forming the main support of the pelvic contents has been abandoned. So, too, should that which recognizes the fascia as the chief structure to be repaired—it is the muscular layer above all which much be restored in order to secure ideal results. There is not an instance in the human body where a fascia, aponeurosis, ligament or similar structure unaided by muscular action sustains, for any great length of time, any weight or tension. It is an invariable rule when weight or tension is permanently thrown on fasciæ or on ligaments, thru the loss of muscular power, that these structures yield and lengthen. If the muscles of one side of the back become weakened or paralyzed, scoliosis quickly results, notwithstanding the powerful ligaments binding the vertebræ together. When paralysis of certain muscles of the leg occur the ligaments of the arch of the foot and the plantar fascia invariably yield and the arch of the foot is lost. So it is in every instance thruout the body, and so it would inevitably be were the

*Synopsis of a paper read before the Chicago Gynecological Society. Cuts loaned thru courtesy of *Journal of American Medical Association*, in which the entire paper may be found.

fasciæ mentioned left alone to furnish the support at the pelvic diaphragm. My position then is, that the so-called "pelvic diaphragm," or floor, depends for its support absolutely on the practically continuous activity of the intact muscles which enter into its formation, and that the fasciæ are merely adjuncts to the muscles, and in themselves entirely inadequate to furnish the support required.

The muscles entering into the formation of the pelvic floor, as has been already remarkt, are very imperfectly described in most text-books of anatomy. They may be divided into two layers, an inner and outer. The inner layer enters into the formation of the diaphragma pelvis piropium, and is composed of four paired muscles. Some knowledge of comparative anatomy is necessary to a clear understanding of them.

Comparative anatomy teaches us that these muscles are the representatives of well developt, clearly defined muscles which, in the lower animals, are concerned in the ı ovement of the caudal appendage, and which, owing to the loss of the caudal appendage, and the assumption of the erect posture thru evolution, have somewhat readjusted their character and attachments to conform to their new function of closing the pelvic outlet and supporting the pelvic contents. These four muscles are called the ischiococcygeus; iliococcygeus; pubococcygeus and puborectalis. (Fig. 1.)

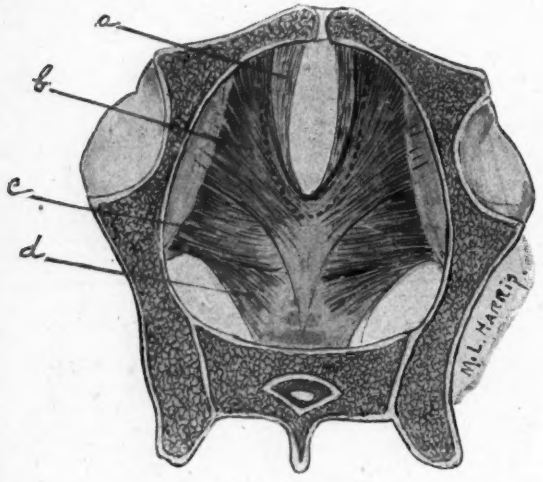


FIG 1.—Muscles of pelvic floor viewed from above; a, pubo-rectalis partially overlapt by "b"; b, pubo-coccygeus; c, ilio-coccygeus; d, ischio-coccygeus.

The ischeococcygeus and the iliococcygeus muscles interest us but little, and will not be further considered.

The pubococcygeus arises from the lower border of the symphysis ossis pubis, from the posterior surface of the body of the os pubis, and from the obturator fascia as far back as the iliopectineal eminence. From this somewhat extensive origin the fibers pass mesordorsad, passing by the urethra, vagina and rectum, lying cephalad of the lower portion of the iliococcygeus, and are inserted with those of its fellow from the opposite side by means of a tendinous expansion into the ventral surface of the coccyx and lower part of the sacrum, the more ventral fibers interlacing directly with those of its fellow as a girdle posterior to the rectum.

The puborectalis lies beneath (or caudad of) the ventral portion of the pubococcygeus, from which it is separated ventrally by an intermuscular fascia. It arises from the outer lower portion of the symphysis ossis pubis, or the beginning of the descending ramus and the cephalic surface of the urogenital fascia. Its fibers usually form a well-defined muscular loop which passes dorsad, encircling the rectum at the perineal flexure, when it becomes continuous with its fellow. In passing by the rectum, some of its fibers enter the wall of the rectum, gradually become tendinous and pass caudad as far as the cutaneous surface. A few fibers also pass anterior to the bowel, between it and the vagina, some of them eventually becoming continuous with the tranversus perinei muscle of the opposite side.

The pubococcygeus and the puborectalis together form what is usually termed the "levator ani muscle," and are the most important muscles of the pelvic floor. They produce the characteristic perineal flexure of the rectum and vagina, and form the chief support of the pelvic viscera. They must undergo the greatest elongation during dilatation of the pelvic outlet for the passage of a child, and, therefore, are most liable to suffer rupture or laceration, as will be shown later. The more ventrally placed fibers pass almost directly ventrodorsad, while on frontal section the muscular plane slopes from the periphery toward the center and cephalocaudad. In the space between the opposite muscles ventrally pass the vagina and urethra, and it is extremely important to clearly understand the relations of these muscles to the lateral walls of the vagina. The normal virgin vagina is not a simple straight tube. In passing from without inward the general direction of the vagina, for a distance of 1.5 to 2 cm. within the hymen, is dorsocephalad. At this point a distinct change in direction takes place, and the vagina passes almost directly dorsad. The point of angulation lies opposite, and corresponds to, the perineal flexture of the rectum, and is produced by the pubococcygeus and the puborectalis muscles encircling these organs at this point, and drawing them forward, or in a ventral direction. (Fig. 2.) With the finger introduced into the

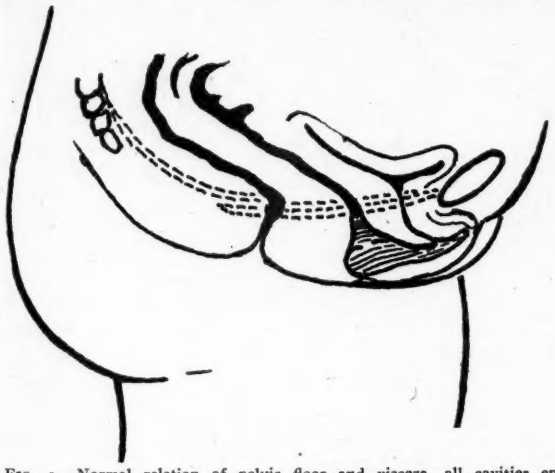


FIG. 2.—Normal relation of pelvic floor and viscera, all cavities empty (saggital section); shows markt perineal flexure of rectum and vagina; dotted line plane of pelvic floor.

vagina one is able to easily recognize the point of angulation, and to distinctly feel of the edge of the puborectalis muscle thru the lateral wall of the vagina as it passes in its course toward the symphysis.

An incision thru the lateral wall of the vagina 1 to 2 cm. to the inner side of the hymen, or its remains, will expose the median edge of this muscle. It may easily be dissected up almost from its origin from the symphysis ossis pubis to the rectum, and in passing by the vagina its fibers do not enter or form an attachment directly to the vaginal wall. The muscle varies from 3 to 6 mm. in thickness, and extends, in connection with the pubococcygeus, laterally to the wall of the pelvis, the plane in the transverse direction being oblique to the wall of the vagina. That portion of the vagina lying internal to the point of angulation or perineal flexure, and which composes

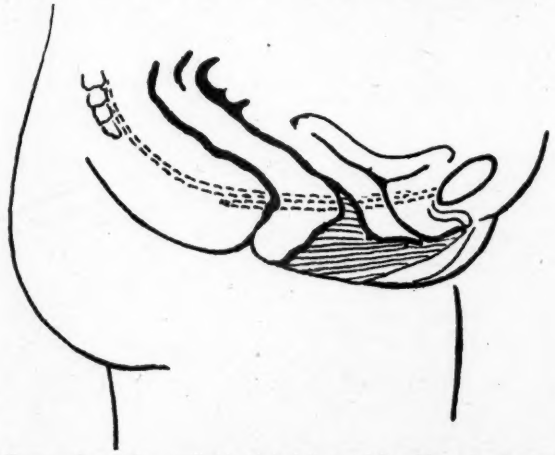


FIG. 3.—Laceration of "perineal body" (partial) without involvement of the pelvic floor. No effect produced on relations of the viscera.

by far the major portion of the canal, lies in its ventrodorsal plane almost parallel with the muscular plane and rests on it, the rectum alone intervening. Contraction of the muscles of this layer tends to increase the perineal flexure of the rectum and vagina by draw-

ing the parts in a ventrocephalic direction, and the opening thru the muscular floor is thereby maintained ventrad of the line of gravity. The weight of the pelvic organs is thus brought to bear on the muscular layer of the pelvic floor. That mass of tissue ordinarily called the "perineal body," lying between the rectum and vagina, and extending from the muscular floor of the pelvis to the cutaneous surface, has little or nothing to do with sustaining the pelvic organs.

We will now proceed to a consideration of those lesions of the pelvic outlet resulting from extreme dilatation. It is sufficient to say that they are produced by the passage of the child during labor, without attempting to explain the mechanism. We may divide these lesions or lacerations into three classes: (1) Those involving the muscles of the pelvic floor. (Fig. 4.) (2) Those involving the

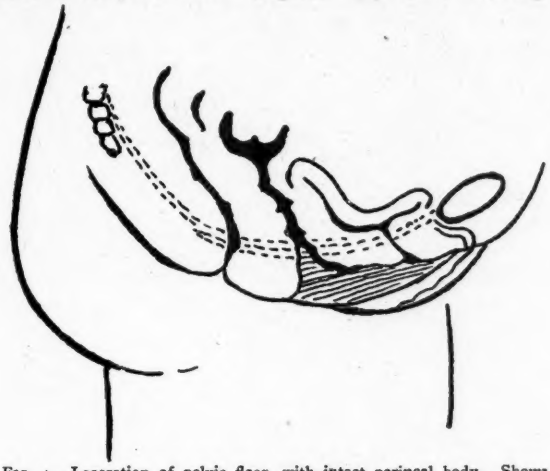


FIG. 4.—Laceration of pelvic floor, with intact perineal body. Shows loss of perineal flexure of rectum and vagina; sagging of vagina, particularly anterior wall; recession of vagina and rectum from symphysis pubis.

tissues between the lower end of the rectum and vaginal opening, external to the muscular layer. (Fig. 3.) (3) A combination of these two. (Fig. 5.)

FIG 5.—Laceration of both pelvic floor and perineal body, shows exaggeration of sagging and recession shown in Fig. 4 with rectocele and vesicocele.

Lacerations of the first class may be compound, by involving the mucosa and wall of the vagina, or they may be entirely submucous. Each of the varieties may vary greatly in degree. This is a practical division of all lacerations, and such elaborate classifications as are found in some text-books (for instance, in Byford's twenty-three distinct varieties of laceration are described), are confusing and without importance. Lacerations of the second class are usually of little importance, except from a cosmetic or perhaps hygienic point of view, and they will not be further separately considered here. My remarks will be limited to old lacerations of the muscular plane.

Schatz was one of the first to call attention to lacerations of these muscles, and the ill effects which followed the loss of muscular support. Since then many others have written about lacerations of these muscles with their fasciæ. but most of their statements have been founded on opinion unsupported by anatomic demonstration, hence are not always strictly in accord with the facts. As the caudal end of the spine in the human subject is much less movable than in the lower animals, we find the muscles which were active in moving this appendage in animals gradually becoming more fibrous or fascial in character in man as we approach the spine. As the extent of motion of the pelvic outlet or degree of laceration produced by the passage of the child at birth increases markedly as we proceed ventrally, we would expect to find lacerations more common and of greater degree in this portion of the pelvic floor; and such is true.

The puborectalis and ventral portion of the pubococcygeus are the muscles which must undergo the greatest elongation. In all cases of relaxation of the pelvic floor in which I have resected these muscles I have found lacerations of greater or less degree. Lacerations may take place in any portion of the length of the muscles, but are more common in that portion of the muscle which passes across the lateral wall of the vagina. It may be that the parietal bosses or the blades of the forceps are instrumental in determining, to some extent, the location of the laceration. The location of the laceration in the muscle does not necessarily correspond to the location of the tear in the vaginal wall, and the muscle may be extensively torn without the vaginal wall giving way at all. In fact, many, if not a large majority, of the muscle lacerations, are entirely subvaginal.

The lacerations may be multiple or single. Numerous slight lacerations may take place, as shown in the specimens under the microscope. (Fig. 6.) Here the separation from any individual

FIG. 6.—Laceration of pubo-rectalis muscle. Leitz obj. 3; eye. a.

tear is slight, but taken altogether produces considerable lengthening of the muscle. We may have a single, complete, transverse tear of the muscle, with wide separation of the ends, as shown in Figures 7 and 8. This is a complete laceration of the left puborectalis

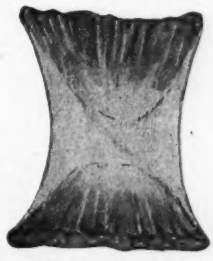


FIG. 7—Section of pubo-rectalis removed, showing complete rupture of muscle with separation of ends—actual size.

FIG. 8.—Section of pubo-rectalis removed, showing cicatricial union after laceration—actual size.

with the end separated at least 1 cm. The laceration may take place opposite the dorsolateral junction of the vagina, and then corresponds to what some writers term "detachment of the levator ani from the rectum." It is not a detachment of the muscle from the rectum, but a laceration of the puborectalis, just as it is about to curve posterior to the bowel. Lacerations may be lateral or bilateral. The effect of lacerations of these muscles is to produce a lengthening of the muscles with a loss of their mean effective contractile power.

As a result, the ventrocentral portion of the pelvic floor moves in a caudodorsal direction. The vagina loses its perineal flexure or angularity above mentioned. The major portion of the vaginal canal, instead of lying in a nearly transverse plane, slopes ventrocaudad. The posterior vaginal wall recedes from the pubic arch and the ostium vagina is enlarged and lax. The finger no longer feels the firm edge of the puborectalis as it crosses the lateral vaginal wall. The perineal furrow has lost much of its depth, and the anus, instead of being cut by a tranverse line extending between the tuber ischii, lies posterior to this line.

These lacerations of the muscles may be associated with laceration of the true or cutaneous perineum, or this part may be intact. The correction of the condition resulting from these lacerations of the muscles must be sought in shortening the muscles torn; in a removal of the cicatricial tissue intervening between the separated torn ends, with a restoration of the continuity of the muscle.

The Emmet operation and all denudation methods of the vaginal orifice, which are the operations in almost universal use to-day, fail to restore, in any degree, the real pelvic floor. They are suitable in lacerations of the so-called perineal body, but not when the muscles are torn. The method which I wish to present involves a resection of a portion of the puborectalis muscle so as to shorten up the pelvic floor. It is performed as follows: When laceration of the perineum is present, the denudation of this part is made in the usual manner. (Fig. 9.) If this body be intact, the denudation is omitted. An in-

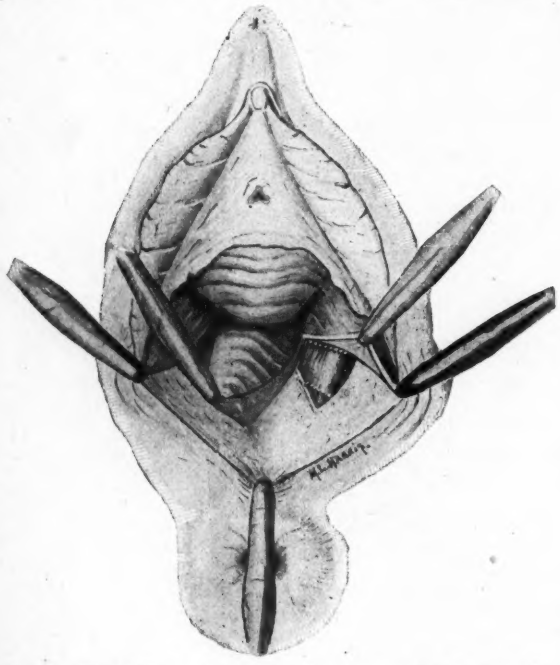


FIG. 9.—Denudation and incision when accompanied by laceration of perineum—shows muscle exposed, with part to be excised.

cision is then carried up each lateral wall of the vagina from 3 to 5 cm., a little posterior to the center. (Fig. 10.) The vaginal wall is raised in a flap each way from the incision. The edge of the muscle can now usually be felt, and an incision parallel therewith is made thru the perivaginal connective tissue, exposing the muscle, which may easily be dissected out with the handle of a scalpel, blunt dissector or the finger, ventrally, as far as the symphysis and dorsally until it curves around posterior to the rectum. Should the muscle have been so ruptured and its ends so retracted that its edge can not be distinctly felt, the incision is made along the line which the muscle should occupy, and careful dissection made for separated ends. The ends of the muscle will be found connected by cicatricial tissue. I have not yet failed to find the remains of the muscle even when badly torn, and the ends widely separated.

The muscle may vary considerably in thickness, and, when very thin and ribbon-like, it may be torn by a careless dissection. When multiple small lacerations are present, the muscle will not be entirely separated at any point, but will be lengthened, loose and relaxt. In width or distance laterally, the muscle may be dissected from 3 to 5 cm. When it has been well freed, forceps should be placed on either side of the portion to be resected, so that the ends when cut shall not retract out of reach. The portion resected should correspond to the point of laceration if found, or when no distinct separation is found, to about the center of the muscle. The extent of the piece resected will depend on the amount of separation or the degree of lengthening and relaxation. It should be sufficient so that when

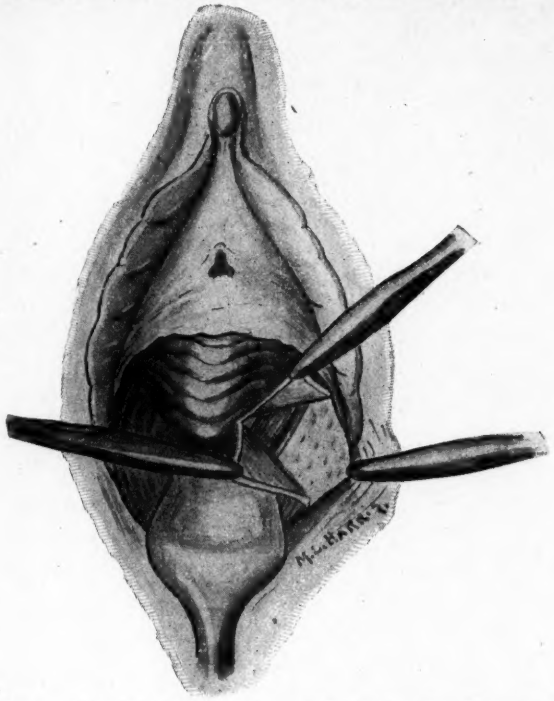


FIG. 10.—Line of incision, with flaps raised, showing edge of muscle when perineum is not torn.

the ends are drawn together the floor of the pelvis will be restored to its normal position and degree of tension. The ends of the muscle are then sutured together with an interrupted or continuous catgut

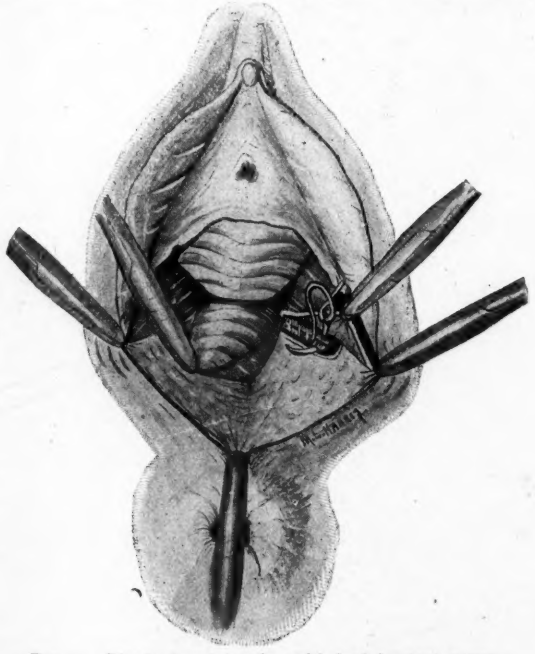


FIG. 11.—Muscle drawn together with buried catgut suture.

stitch which, of course, remains buried. (Fig. 11.) The opposite side is treated in a similar manner, when the incisions in the lateral walls of the vagina are closed by a catgut suture. (Fig. 12.) This latter suturing should be thoroly done so that no openings will re-

main thru which fluids or infection may reach the deeper parts. When the perineum has been torn, this is closed in the usual way. I generally close the deep portion with a buried catgut suture, and then use silkworm gut for the cutaneous surface. The hemorrhage, in dissecting and dividing the muscle, is sometimes free but never great. It is very essential that all hemorrhage be completely controlled before closing the wounds, so that a hematoma may not develop in the deep parts and compromise the results of the operation. The subsequent care is that usual after a perineorraphy.

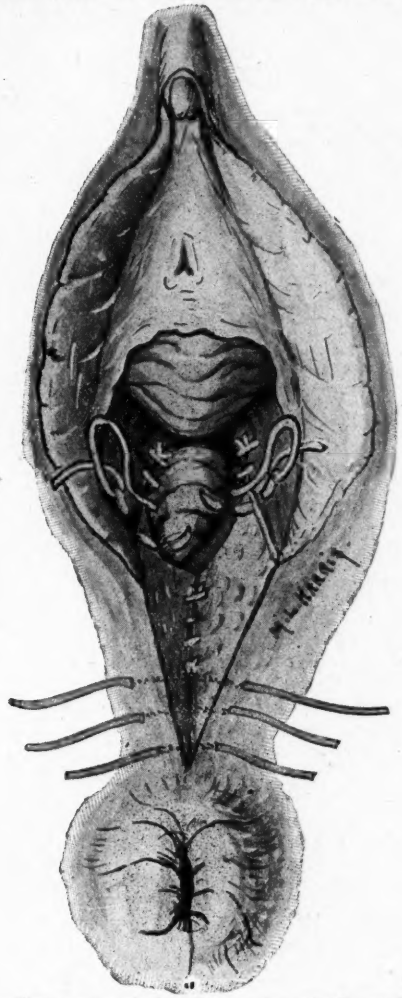


FIG 12.—Closure of vaginal wall over the sutured muscle and of the perineum.

This operation restores the pelvic floor to its normal position. The vaginal opening is carried ventrad, the angularity or perineal flexure of the vagina returns, the posterior wall of the vagina loses its sagging and becomes more nearly horizontal again, and a good support is re-establisht. The clinical results have been very good. The muscles retain their active contractile power, and their elevating and sphincteric action at the vaginal opening is again restored and well maintained.

DR. A. P. CLARKE, Professor of Gynecology in Boston College of Physicians and Surgeons, considers markt exaltation of the faculties and exuberance of the imagination, (as symptoms of the menopause) as ominous. Undoubtedly the withdrawing of a large amount of blood from the sexual system causes a larger flow to the brain or central nerve organs, which may lead to undue strain and produce mischief. He also notices exceptions to Colles' law in which the mother shows syphilitic symptoms at the period of the menopause, which are quickly relieved by specific treatment. Other symptoms mentioned by Clarke are the recurrence of hemorrhage after the period, which should arouse attention to the condition of the uterus; epistaxis; intestinal disorders; leucorrhea; mental irritability and hysteria; pleuritis and fibroid growths.

THE APPLICATION OF ROENTGEN RAYS TO SURGERY.*

BY C. MANSELL MOULLIN, M. D., F. R. C. S. ENG., LONDON, ENG.
President of the Roentgen Society: Surgeon to the London Hospital, Etc.

My distinguisht predecessor, Professor Sylvanus Thompson, in his inaugural address delivered at the first meeting of our society, drew with a master's hand a picture of the rise and origin of the Roentgen rays, and showed what they were, how they were produced, and what relation they bore to the other ether waves. I am not so rash as to court comparison. Fortunately for me our society embraces so many difficult interests and extends in so many different directions that it is not difficult to find some portion of the subject of its work which has scarcely been toucht upon as yet, so I am sure you will forgive me for choosing that which appeals to me as a surgeon the most strongly—the practical application of the Roentgen rays to the needs of surgery and the immense advances which have been made in this direction in the course of the past year.

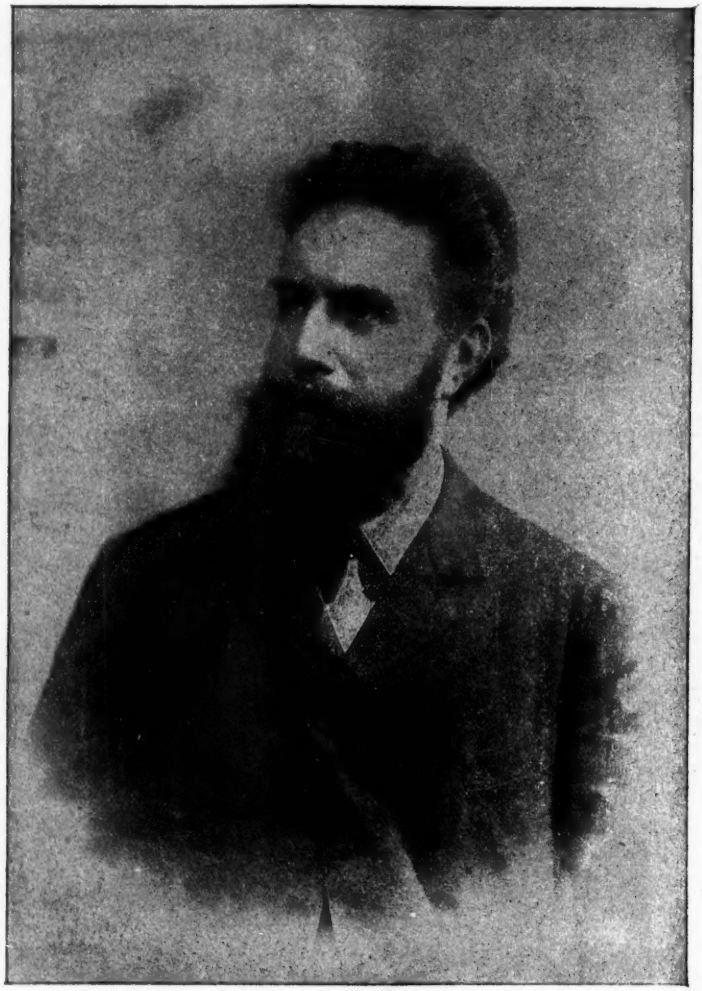
DELETERIOUS EFFECTS OF ETHER WAVES.

I feel that it is my duty first of all to clear the Roentgen rays of a stigma which has been thrown upon them and which has in some measure tended to limit their sphere of usefulness. So far as regards the injuries, often of a very serious character, which have followed prolonged exposure to the discharge from a focus tube, the events and discussions of the past year go a long way toward proving that the Roentgen rays stand blameless. Whatever the cause, the effect is not to be laid to their charge. The ether waves, which we recognize as light and heat, are acknowledged by all to have great influence over the changes which take place in living tissues. The ultra-violet rays, it is known, are especially potent, and the discharge from a focus-tube may be so powerful as to cause the death of the structures which are exposed to it. But not only is there no proof that the ether waves which possess this power are the same as those which can be made visible to us as Roentgen rays, but there is every reason to believe that they are of quite a different order. Screens which cut off one have no influence upon the other and consequences which follow too close exposure may be prevented, or at least very greatly minimized, by the interposition of substances perfectly transparent to the Roentgen rays. These consequences, however, altho they may not be due to the action of the Roentgen rays, have an interest peculiarly their own, and I cannot help thinking that they have not yet received the attention which they deserve. I cannot help believing that in a few years' time, or even in a few months—for everything in connection with our subject advances with startling rapidity—it is quite possible that the existence of the ether waves which produce these results will be regarded as a matter of scarcely less importance than the existence of the Roentgen rays themselves. These waves have not been studied as yet. Their action has been dreaded and avoided rather than courted. Every attempt has been made to eliminate and get rid of them. But of their power to influence the processes of nutrition which take place in the tissues for good or for bad, according to their strength and mode of application, there can be no question, and altho in the strict definition of the title of this society they may not come within its scope, I cannot help expressing the hope that the society may be made sufficiently comprehensive to embrace them and their action as well as the Roentgen rays themselves. Instances of the injurious power possest by these ether waves, when exposure has been too close or too prolonged, will occur to everyone. They are matters of common notoriety. Hairs die and fall out. The cells that line the hair follicles perish, and tho as a rule the hair is regenerated after a time the effect upon the surviving cells is shown by the weak and stunted appearance of the new growth and by the fact that it is often white in color. The epidermis becomes dry and scaly in the same way. The nails are affected, and, briefly, if the exposure is sufficiently close the nutrition of the nearest and most superficial structures is so impaired that they die and are thrown off. In the worst cases the effect extends more deeply still. Not merely the epidermis, but the corium and even the subcutaneous tissues perish, so that when the dead structures do separate at last the destruction may be so great as to necessitate amputation. There is no inflammation at any time! The effect is entirely different from that which is produced by light or heat or by the action of the ultra-violet rays. In the majority of instances no change of any kind is perceptible for upward of three weeks. There is no alteration in the blood supply or in the innervation of the part, no coldness or loss of sensibility. Doubtless the cells which form the walls of the smaller blood vessels and the terminals of the nerves are affected like the others, but the death which follows is not due to cessation of the circulation or to defective innervation. Quietly and slowly, at the end of about three weeks, cell after cell perishes, layer after

*Delivered before the Roentgen Society on July 4, 1899.

layer is thrown off, until at last a stratum is reacht in which there is still sufficient vitality to enable the tissues, if everything else is favorable, to hold their own and to begin the process of repair.

Every case hitherto recorded has been characterized by these peculiar features—features which distinguish these injuries from all others. There is first a long period of quiescence in which no change of any kind is apparent, a period of weeks. Then there is a period of decay and death, extending more or less deeply according to the duration and the closeness of the exposure, entirely uninfluenced by treatment. There is no evidence that anything in the way of active treatment has stayed the process in the least, tho it is not improbable that it has sometimes made it worse. And this in its turn is succeeded by a period of repair, as slow and as precarious as it is after an extensive frost-bite, the progress which has taken weeks to make often disappearing again entirely in the course of a few hours. I know of no way in which it is possible to account for such striking peculiarities as these, except on the assumption that the ether waves have profoundly affected the changes which take place in the living substance of the cells themselves.



Picture of Professor Roentgen, discoverer of the X-ray.
Cut from *X-Ray Journal*, St. Louis.

POSSIBLE VALUE OF ETHER WAVES.

Such were the results obtained in the earlier cases—results not anticipated and, above all, to be avoided. But because an agent at its first introduction, when its powers are entirely unknown, is found to be of a most destructive character it does not follow that when properly controlled and regulated it may not possess valuable properties of its own. And this appears to be true of these ether waves. Events and discussions of the past year have shown that the power which, uncontrolled, is able to destroy all that stands in its way may be tempered in such a manner as to prove a valuable source of help. That bacteria living in the tissues can ever be destroyed by its agency, as they can be when growing in artificial cultures conducted under special conditions, is highly improbable. The power of resistance possest by these minute organisms is as great as, or even greater than, that of the tissues themselves, and anything which tends to lower their vitality would lower the vitality of the tissues to at least an equal degree. All hope, therefore, of destroying such organisms as the tubercle bacillus in the tissues must be laid on one side. But it has been shown that under the influence of these ether waves tissues which have been invaded by certain organisms, and which were failing in the struggle, may be so strengthened as to be able to cope with their invaders far better than they could before, and even in certain instances gain the upper hand without any other assistance. Whether neuralgia and the pain of articular rheumatism and that which is caused by cancerous deposits can be relieved in this way, as has been asserted, I am not yet in a position to state. It is not unlikely that the benefit which has been experienced in these and perhaps in similar cases has been the product rather of psychical suggestion than of anything else. There is not at present sufficient evidence to say that it was not. But there can be no doubt that cases of lupus and of eczema have been cured by exposure to these waves, not the least successful having been those publisht in our Archives by Mr. Thurston Holland; and that not only have they been cured, but that the scars left have been of a singularly inconspicuous character, showing that the destruction of the living cells had been reduced to the smallest limit consistent with repair. How far this action is capable of extension it is not possible to say at

present. The whole thing is in its infancy. But no one can deny that in these ether waves we possess a power which can quietly and imperceptibly modify the processes which are constantly taking place in living cells in such a way that we can either stimulate them to increast energy or depress their vitality until they quietly and slowly perish. The day may come when the existence of this power may prove of scarcely less importance than the discovery of the Roentgen rays themselves.

IMPROVEMENTS IN RADIOGRAPHY.

The time at my disposal is so short and the field of work so wide that I may not do more than allude to the immense improvements which have been made in the course of the past year in the manufacture of tubes suited to the much more heavy discharges that are being used now and in other technical details. Two especially stand out above the rest as of the highest practical importance in medicine and surgery—namely, the application of stereoscopy by which localization has been rendered so much more easy and the relative position of deeply buried objects has been made visible; and, tho it is far from probable that we have reacht finality in this, the introduction of the Wehnelt break. The time of exposure

PHOTOGRAPH.

Mummified hand of an Egyptian Princess, obtained near the Tombs of the Kings, Thebes, in 1892. The hand is believed to be 4,000 years old, and of a Princess, since it was found clad in gold.

even for such cases as renal calculi has been shortened from hours to minutes and even fractions of a minute. The risk of causing injury has therefore altogether disappeared. Many operators can point to hundreds of cases which they have taken, not one of which has ever suffered the slightest harm. The illumination now is much more brilliant and more steady. Clearness of definition has been increast almost beyond expectation, and means have been devised by which photographs can be obtained of many of the soft structures in the body which were previously regarded as too transparent to throw any shadow. It is unhappily still true that a large proportion of the rays is wasted and lost, especially in taking photographs, and that a great deal of the detail is obscured in printing, so that the chief value is in the negative. In other words, we are not yet able to utilize to the full, or even nearly to the full, the light which we can produce. But there can be little doubt that in a short time these difficulties, too, will be overcome and that then the results which we shall obtain will be as superior to our present ones as these are to those of two years ago.

GREAT ADVANCE IN DIAGNOSIS.

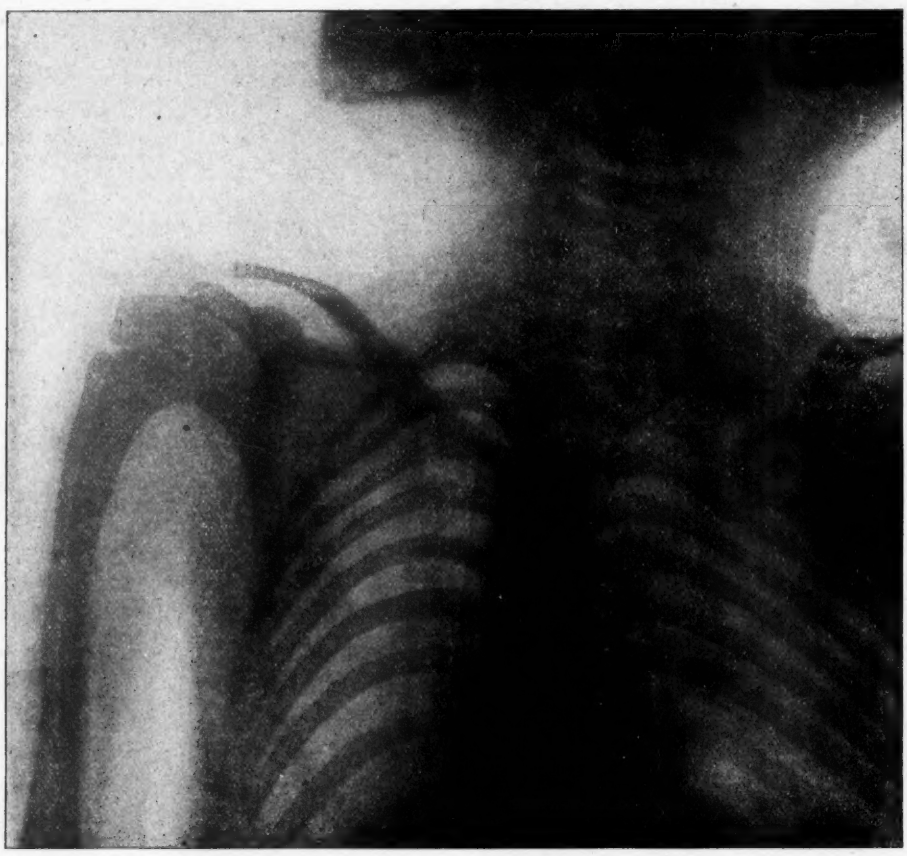
There is no branch of medicine or surgery which does not afford abundant evidence of the improvements which have taken place in the production and utilization of the Roentgen rays in the course of the past year. The screen has now reacht such a degree of perfection that with suitable apparatus the minutest movement of the heart and lungs, and the least change in the action of the diaphragm, can be watcht and studied at leisure in the living subject. Photographs of the most deeply buried bones can now be obtained without difficulty. Measurements of such structures as the pelvis can be taken directly by a simple process of calculation without subjecting the patient to the least inconvenience. And the clinical records of the past year are full of instances showing what has been done and what can be done in medical and surgical practice. I am afraid I should exhaust your patience if I were to attempt to give an account of these cases which would be regarded as in any way adequate by those who have recorded them. But there are some of so striking and definite a character that I may be forgiven for mentioning them. Many disorders which even after the discovery and the first application of the Roentgen rays were regarded as almost impossible of certain demonstration, such as aneurisms of the thoracic aorta, interlobar empyemata, mediastinal abscesses, and patches of central pneumonia, can now be shown upon the screen with the greatest distinctness and localized with absolute accuracy. Photographs can be

RADIOGRAPH.

From the above. Since the catacombs gave up this mummified hand many persons have doubted its genuineness. The X-rays revealed its real antiquity.

taken of enlarged mediastinal glands and of other intra-thoracic growths. The illumination now is so steady and uniform that the earliest stages of tuberculous lesions in the lungs can be seen and recognized, partly by the curiously stippled shadows which they cast—partly by the visibly impaired movement which accompanies them—a fact which has not escaped the notice of some of those who are connected with life insurance. Cavities in the lungs, whether containing air or pus, can now be detected at once, and the position and depth from the surface can be accurately mapt out, so that the question of the advisability of drainage and operation is once more coming to the front. The presence of adhesions, the alteration in the level of pleural effusions in different positions of the body, the distinction between sub and supra-diaphragmatic collections, and the existence of cysts or of tumors projecting from the upper surface of the liver and raising the diaphragm can now be shown with the greatest clearness. And the same may be said of the changes in the position of the heart and in the size and shape of its chambers, whether brought about by disease or by strain thrown upon their walls by difficulties in connection with distant vessels. They can be seen distinctly with the screen and can be watcht from day to day, especially easily in those cases in which, owing to the presence of emphysema and the absence of cardiac dullness, the ordinary tests fail to give any information. There is,

in short, scarcely any change in connection with the lungs and the heart and great vessels which cannot now be seen and photographt; scarcely a disease of the chest or of the organs which it contains concerning which the most valuable information cannot be obtained. To such an extent has the fluorescent screen been improved,



Fracture of Anatomical Neck of the Humerus. X-ray work by Dr. Heber Roberts, of St. Louis X-Ray Laboratory.

and so easy has investigation with it been made, that I am convinced that some day, and probably at no very distant date, the examination of a patient's chest with it will be considered as much a matter of routine and as little to be neglected in all doubtful cases as an examination with the stethoscope is at the present time. Valuable as are the indications given by the ophthalmoscope in obscure diseases of the brain, they are not to be compared with those which can be obtained by systematic and skilled use of the fluorescent screen in diseases of the heart and lungs.

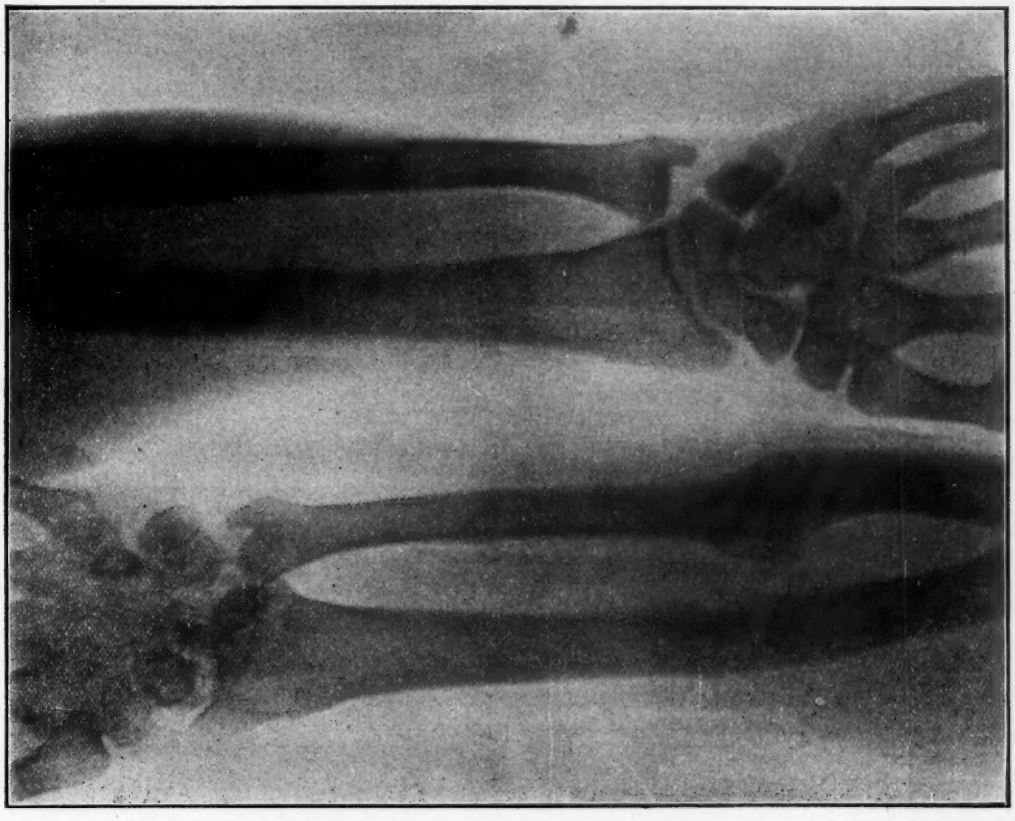
The benefit which surgery has derived from the improvements which have been effected in the use of the Roentgen rays during the past year is no less striking. Military surgery will have to be re-written. Thanks to the ease with which suitably planned apparatus can be carried on campaign, all the wearisome and intensely painful probings after bullets and foreign bodies to which the wounded look forward with such dread have been swept away. The actual position of the bullet is defined at once, no matter how deeply buried it may be, and, if removal is considered advisable, it is cut down upon and extracted in accordance with well-defined anatomical principles, and the track that it has made is left to heal up of itself. Shot and other substances such as portions of percussion caps have not only been localized in the eye, but their exact shape and size have been ascertained with so high a degree of accuracy that they could be removed by the most direct route, thru the smallest possible incision. Bullets, the position of which inside the skull could not even be conjectured, have been successfully localized and extracted from the brain. Foreign bodies, such as plates of false teeth which have been swallowed accidentally, or, worse still, have dropt into the air-passages; others, such as Murphy's button, introduced in the course of operation, splinters of bone, pins, and needles of various kinds, wire, sutures, fragments of glass which have been buried perhaps for years, and numberless other substances have not only been made visible, but have been markt out as accurately as if they had been lying in some perfectly transparent medium, so that they could be excised or not according to the degree of inconvenience which they caused and the relative danger of the operation.

As might be expected, the largest proportion and the most striking cases have been furnisht by the injuries and diseases of bones and joints. Those only who have experienced the difficulty of determining whether a fracture or a dislocation or both together may not be present in the neighborhood of such a joint as the elbow, when the soft tissues around are so swollen that no bony prominences of any kind can be felt, can realize the immense help given by a well-lit fluorescent screen. It is no question now of long exposure or of keeping the patient, perhaps a child, frightened and suffering pain, quiet for a considerable part of an hour, or even under an anesthetic. Half a minute is enough. The nature of the injury is apparent at once, and, what is even more valuable, it is no less easy to ascertain whether the fracture is properly set or the dislocation completely reduced. If the screen is of service to physicians in the diagnosis of intra-thoracic disease, the records of the past year have shown by numberless instances that it is no less valuable to surgeons by enabling them to make sure at a glance that the bones are in their proper relative situation without touching the splints or giving the patient a moment's pain.

Diseases of bones and joints have benefited no less than injuries. Thanks to the improved methods of the past year the hip-joint can now be radiographed with certainty. All the strange appearances which were so misleading, and which were due in large measure to the distortion produced upon the photographic plates by faulty position, can be eliminated, and the various forms of congenital dislocation can be differentiated from each other and from such complaints as coxitis which are attended by deformity of a somewhat similar character. The fate which overtakes bony grafts implanted into defects has been watcht as plainly as if the grafts were on the surface of a limb instead of deeply buried in its substance. Diseases such as sarcomata, tuberculous deposits, central abscesses, necrosis, and the like, which, when they occur in

deeply-seated bones, are often exceedingly difficult to recognize and distinguish from each other, have been made perfectly plain. Cavities hitherto almost inaccessible without operation, such as the frontal and sphenoidal sinuses, have been brought within reach of the probe. Valuable help has been given in the diagnosis of antral and other maxillary tumors and a serious blow has been inflicted upon the reputation of the bone-setter who, now that the position of even the smallest bone can be shown to the patient in a photograph, has been compelled to alter his phraseology if not his practice. So far as surgery is concerned, nothing illustrates the immense improvement which has been made in radiography in the course of the past year better than the detection of renal calculi. Until this year the instances in which they had been photographt and verified by operation were few and far between. I do not think that there had been any success at all, except in the case of a few thin and anemic patients. Now, thanks more particularly to the work of Mr. Mackenzie Davidson in this direction, the detection of renal calculi can be lookt forward to with a fair degree of certainty, and, what is even more valuable, as saving patients from unnecessary operation, the evidence can be trusted equally well when it is negative. In all ordinary cases it may be said that if no calculus is seen there is no calculus there to see. Unfortunately, biliary calculi elude us still.

Such are a few of the practical results of the improvements in radiography in the past year. There may have been no startling discovery—such do not occur every day—but there is no single method or part of the technic in which the advance has not been immense. Important as radiography has become already, I believe the position to which it has attained is as nothing compared with that which awaits it. From the number and the scientific standing of those engaged in working at it there can be no doubt, even if fresh discoveries are not made, that the results will continue to improve, and very likely at an even more rapid rate than they have done already, and that in a little while not only will every institution connected with medicine be equipt with suitable apparatus and, what is still more necessary, with skilled and scientific workers, without whom the best apparatus is perfectly useless, but that all patients, unless their complaint is of the most absolutely simple character, will be examined with the screen or be photographt as a matter of routine. Certainly they will expect to be, for even now, so highly do the general public appreciate the value of the discovery, it is no uncommon thing, and sometimes a rather embarrassing one, for them to come up for consultation armed already with radiograms of the affected part, and not infrequently with the most extraordinary impressions and opinions formed from them.



Radiograph (by Dr. Heber Roberts, of the St. Louis X-Ray Laboratory), showing Barton's Fracture, which was declared by the late Prof. Levis, of fracture fame, to be an anatomical impossibility. Radiograph of the uninjured fellow arm above.

A SHORT CLINICAL CONTRIBUTION TO THE RELATION OF SURGERY TO NERVOUS AND MENTAL DISEASES.

BY M. P. SEXTON, M. D., KANSAS CITY, MO.
Professor of Nervous and Mental Diseases in College of Physicians and Surgeons; Superintendent Bonner Springs Lodge.

Case 1. In the first year of my practice at Centralia, Mo., in 1880, I was called in consultation by Dr. B—— to see a young man named Shryock, who had had epileptic fits for a number of years, and who had had a large number of fits during the day on which I was called. On approaching his bedside, I ran my hand over his head and felt a long fissure in the skull that I could almost lay a finger in; I askt the attending physician if he had not noticed this evidence of traumatism, and he said he had not. The patient, who was about 22 years old, stated that the injury had been done in childhood. When his brother was chopping wood he leaned forward to show him where to strike, and the descending axe split his skull. He stated that no physician had ever spoken of the relation between this injury and his epilepsy. I advised an operation, even at that late day, but nothing was done; it is possible it might have cured him, tho the time to benefit such cases is before the epileptic habit is establisht.

Case 2. In 1890 a German named Mueller, about 30 years old, was sent from the Penitentiary at Jefferson City to the State Asylum at Fulton, Mo. The history of the case was that about six weeks

previously he had been struck on the head with a brick by another convict, and had been sent to the hospital on account of the injury sustained. What was supposed to be "delirium" supervened, but the fact developt later that the man had acute mania. On his admission to the Asylum, he was placed under my charge in a detacht building devoted chiefly to the chronic and incurable insane; I found a deprest fracture on the left side of the frontal bone near the coronal suture, and proposed an operation; the advisability of the operation was agreed to by the entire staff, but a convenient time was never found to perform it, and the patient's mania became chronic. He died of an intercurrent malady, and the autopsy revealed the depression and consequent injury of brain tissue. This is also a case which might have been helpt by early surgery.

Case 3. In 1893 Mrs. M——, of Fort Scott, was operated on at St. Joseph's Hospital for lacerated cervix. She had become insane only a few weeks previously whilst attending the World's Fair at Chicago, but she and her husband concealed this fact from the surgeon, and he very naturally and properly did a trachelorrhaphy without hesitation. In twenty-four hours the patient was a raving maniac, and continued insane for more than a year. The unstable cerebral organization had been unsettled by the anesthetic, just as it often is by alcoholic indulgences. The insanity was not due to the operation, per se, as might be thought by some were the prior mental alienation not well establisht.

Case 4. In 1894 Miss Emily W—— was placed in my charge, with a history of mania of several years' duration, during which she had been treated in several sanitariums. Dr. Newman, of Chicago, had advised removal of ovaries; the father askt my opinion on the subject, but I could see no reason for an operation, as the evidence seemed lacking that the ovaries were offending organs. About a year afterward, however, the ovaries were removed by Dr. Ward, and the patient's condition was so greatly ameliorated thereby as to enable her family to keep her at home. Had this operation been done earlier, before the mania had deranged the brain, it is my opinion that a complete recovery would have been obtained, because the results which followed the operation after such a long period of illness were so favorable as to modify my views on this subject.

Case 5. Miss F——, aged 18, was sent to me by Dr. Dannaker in 1895, suffering from acute mania, due to overstudy at high school. Her disease had a close relationship to the menstrual function. She would clear up between her periods, only to suffer a violent relapse at the next appearance of the catamenia. I told her father that oophorectomy must be considered, but we decided to defer operation a little longer. Under proper internal medication she past her next period without a symptom of mental trouble, and has been perfectly well to this day, now more than four years!

Case 6. Miss C—, a maiden lady of 44, was mentally deranged when about 25, recovering within a year. She broke down again at 41 and presented a great variety and wide range of morbid mental phenomena, from profound depression to excessive exaltation, erotic mania often prevailing over her naturally refined and chaste nature. There was markt hereditary influence. After three years she seemed to recover, but uterine hemorrhages, to which she had occasionally been subject, appeared now to a serious degree. A vaginal hysterectomy was done, and the patient soon afterwards became again deprest in mind. In the two years that have since elapst she has had alternations of healthy mental activity and melancholia, but the general trend is toward recovery. This patient had diseased ovaries and a small fibroid tumor at the fundus uteri. The operation was certainly justifiable, and reasonably successful, since recovery was very improbable under existing pathological, irritating conditions.

Case 7. Mr. T——, a stockman of Hume, Mo., was thrown from his buggy and sustained a fracture of one of the tarsal bones. The patient suffered great pain, and after some days was brought to Kansas City for operation. Dr. Griffith removed the fragments and put the foot in proper condition, but the prolonged suffering and shock had eventuated in a mania which would undoubtedly have persisted had surgical relief been longer delayed. Improvement began soon after operation, and he recovered entirely in a few weeks.

Case 8. Miss D—— had been insane for three years, psychopathia sexualis being the dominant element in her case. Battey's operation was done. Four years have now elapst since the operation, but the only improvement apparent is abatement of the violence of the mania, and that is more fairly attributable to general treatment and regimen than to the operation. Erotomania is still a painful characteristic of the case. Altho so little benefit can be ascribed to surgery in this case, I would not by any means have the patient's ovaries restored, if I could.

Case 9. Wm. B——, aged 13, came to me from Olathe, Kan., with history of epileptic seizures extending back over several months. I found the prepuce slightly elongated and extraordinarily sensitive, the slightest touch developing pain similar to that of irritating the exposed nerve of a carious tooth. I, of course, advised circumcision, which resulted in a prompt and complete cure.

The above cases are not presented because they are unique or unusual, nor yet because so small a number (which might be multiplied indefinitely) would settle a question so widely, and, at times, so acrimoniously discust as the relief of nervous disease by surgical intervention. Neither do they cover the whole range of relationship between surgery and nervous and mental diseases, but they are gleaned from my own experience, and are deemed fairly illustrative of the various phases of nervous disease, amenable and unamenable to surgery.

For the relief of epilepsy nothing could be more rational, nothing could be more imperative, than to resort to surgery when the disease is manifestly due to causes remediable by surgical procedures; yet, in Case 1, we have a striking example of failure to give the patient the benefit of this resource or even to apprise him of the fact such help might possibly avail him. The case tells its own story, and requires no comment.

In Case 9 the reflex irritation was so apparent as to point unerringly to surgery as a remedy and no medical man who was at all well informed could have failed to give appropriate advice. But the lesson it conveys is never to overlook any peripheral irritation, remembering that such well-known points as the eye and its muscles of accommodation, the prepuce and the nerve-end imprisoned in a cicatrix—all familiar examples of widely disseminated and greatly diversified conditions.

In Case 2 there is a lesson of great significance, for from it deductions may be drawn which offer a solution of the mystery involved in many an instance of masterly inactivity in asylum practice and elsewhere. The resident physicians are often inexperienced and incapable as surgeons and either too indolent and unprogressive or too narrow and jealous to call in competent aid from the outside.

To what extent the same motives and the same conditions prevail in private practice and in other specialties, I leave my readers to judge.

Case 3 is a picture on the other side of the question and teaches two lessons: One is the duty of the patient to be candid with his doctor and of the surgeon to elicit every possible fact concerning a patient's instability; the other lesson is a rebuke to the eager surgeon who insists that there is no danger whatever in any surgical operation. In the case cited the surgeon made due inquiry and was misled, but some surgeons boldly and recklessly state that a proposed operation is absolutely devoid of danger without having made the inquiry into the physical and psychical history and condition of the patient.

Cases 4, 6 and 8 teach us that a patient who is the victim of chronic mental disease or one who is profoundly under the influence of the neuropathic diathesis to the extent of barring matrimony, has no use for the organs of procreation, and to remove such organs when they are evidently exercising an adverse influence upon the patient is *not* a wicked and avaricious mutilation.

Case 5 illustrates how very perplexing these problems are to a conscientious physician who watches the progress of a mania of itself destructive to the brain, constantly hoping for its abatement, yet fearful of its results and at the same time dreading to take a radical step in the case of a young and promising girl. Had this young girl been operated upon, we should have doubtless pointed to her case as an instance of the triumph of surgery in mental disease.

Case 7 illustrates the dangers of the continuous assaults of pain upon the nerve centers and shows that we dare not trespass too far along physical lines any more than we do along emotional lines.

In such instances the relief afforded by surgery should be sought early, for the disturbed equilibrium may not always be restored.

In this brief and imperfect *resume* I have endeavored to avoid partisan discussion of the subject or the indulgence in fanciful theories, preferring, if possible, to base my statements on the substantial tripod of science, experience and common sense.

International Journal of Surgery quotes Eisendrath as saying: In an infection of the fingers, especially of the palmar aspect, make a longitudinal incision, preferably to either side of the tendon, and keep the wound open with gauze packing. If the periosteum has been invaded, incise down to it early, and it will often be possible to save the phalanx. Remember the tendency of these infections to invade the tendon sheaths. If this has taken place, open the same early, remembering the anastomoses, and especially those of the thumb and little finger.

AN APPEAL TO THE MEMBERS OF THE MEDICAL PROFESSION IN THE UNITED STATES.

BY W. W. KEEN, M. D., LL.D., PHILADELPHIA, PA.

President of the American Medical Association, Professor of Surgery in Jefferson Medical College.

The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the bill for the "Further Prevention of Cruelty of Animals in the District of Columbia," which he so strenuously and misguidedly advocated in the last two sessions of Congress. It is Senate Bill No. 34. Twice the Committee on the District of Columbia has (also unfortunately and misguidedly) reported the bill with a favorable consideration. It is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals, but the real object is twofold: 1, to prohibit vivisection and, 2, to aid the passage of similar bills in all the State Legislatures.

It hardly needs to be pointed out that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the Government, the Army, the Navy, and the Marine-Hospital Service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds. All those who raise or own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease.

The inestimable value of these scientific researches as to the prevention and cure of disease among human beings it is superfluous to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done.

As my attention has been called officially to the introduction of the bill, I take the opportunity of appealing to the entire profession of the country to exert itself to the utmost to defeat this most cruel and inhuman effort to promote human and animal misery and death and to restrict scientific research. It is of the utmost importance that every physician who shall read this appeal shall immediately communicate especially with the Senators from his State, shall also invoke the aid of the Representatives from his or other districts in his State, and by vigorous personal efforts shall aid in defeating the bill.

It is especially requested also that all of the national, State and county societies, at their next meeting, take action looking toward the same end. If regular meetings are not soon to be held, special meetings should be called. Correspondence is invited from all those who can give any aid.

The Committee on the District of Columbia consists of Senator James McMillan, Michigan, Chairman, and Senators J. H. Gallinger, New Hampshire; H. C. Hansbraugh, North Dakota; R. Redfield Proctor, Vermont; J. C. Pritchard, North Carolina; Lucien Baker, Kansas; C. P. Wetmore, Rhode Island; C. J. Faulkner, West Virginia; Thomas S. Martin, Virginia; Wm. M. Stewart, Nevada, and Richard Kenney, Delaware. Personal letters may be addrest to them or to other Senators. Petitions should be addrest to the Senate of the United States.

A CASE OF SARCOMA OF THE CONJUNCTIVA, WITH REMARKS ON METASTATIC SARCOMA AND CARCINOMA.

BY JAMES MOORES BALL, M. D., ST. LOUIS, MO.

President of the St. Louis Academy of Medical and Surgical Sciences; Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons; Oculist to the St. Louis City Hospital.

The person from whom this eye was removed is Thomas H., colored, aged fifty, who was admitted to the St. Louis City Hospital on November 25, 1899. He is a farmer. The patient gives a clean family and personal history, and states that his left eye began to pain him about two years ago. The patient's account of the condition of his eye at that time is very unsatisfactory; in fact, he can give no information as to its condition for the last year except that within the last two months the eye has become swollen and painful.

I was askt by Dr. H. L. Nietert, Superintendent of the St. Louis City Hospital, to see this patient on the day after his admission. The left eye was protruding one-half inch in advance of its fellow; the ocular conjunctiva and cornea were enmesht by a new growth, which did not extend into or start from the orbit; the diseased eye moved in harmony with the normal one, the sight was lost, and the appearance of the patient was repulsive. His nose appeared unusually broad; on inspecting it I found both nasal chambers occluded by numerous polypi. The hospital record does not state how long the nasal obstruction has existed.

In looking at this case my first thought was that the exophthalmos had been caused by the intranasal growths, but the absence of any pressure from within the orbit caused this theory to be abandoned immediately. The mobility of the eye showed that, if any growth were present in the orbit, it must necessarily be either too small to produce the protrusion of the eye, or it must lie in or around the optic nerve. Exploration of the orbit by the finger gave no evidence of a new growth in the orbit. In view of these facts, coupled with the appearance of the tumor mass, I made a diagnosis of cancer of the conjunctiva.

The treatment of this case consisted in the removal of the eye and the ocular conjunctiva. After making the enucleation, I explored the orbit carefully, and could find no infiltration or any evidence of pressure from adjacent cavities. The patient has done well. For some days after the enucleation, he complained of headache. This was due to the intranasal pressure of the polypi. They were not removed until several weeks after the enucleation, altho I advised the hospital physician to call on a rhinologist at once. During this time symptoms of bilateral orbital cellulitis appeared, which yielded readily to treatment after removal of the polypi.

PATHOLOGY.

Sarcoma attacks the eye, either primarily, secondarily, or by metastasis. Primary sarcoma of any of the ocular structures is a rare disease, the most frequent site being the choroid. Of choroidal tumors, one case is found of 2218 ophthalmic cases in Great Britain, according to the statistics of Berry.[1] Eighty-five per cent of choroidal tumors are sarcomata,[2] and of these the pigmented are much more common than the leucosarcomata. I am unable to present statistics of the frequency of primary conjunctival sarcoma; but such cases are exceedingly rare—so infrequent that some textbooks scarcely mention the condition, and some ophthalmologists have never seen a case.

The most common malignant growth of the conjunctiva is the epithelioma, and only recently a noted French observer (Panas) contended that the so-called sarcomata of this structure are only epitheliomata of more rapid growth.[3] This view, however, is not

SARCOMA OF THE CONJUNCTIVA.

now accepted. As epithelioma attacks by preference those parts of the body where one tissue joins another, and one epithelium joins another, as the lips, anus, nose, etc., so we find that epithelioma of the conjunctiva begins at the limbus—*i. e.*, the corneoscleral junction. Here there is not so much difference in the epithelial covering as in the character of the underlying tissues. An additional factor in the development of epithelioma here is the peculiar arrangement of epithelium at this place—for in normal sections we often find the epithelium growing into the corneal tissue in the form of conical processes[4].

Sarcomata of this region are usually pigmented. These melanotic growths arise in those spots where pigment is normally present, and the limbus is one of these places. Starting from this point,

*Read before the St. Louis Academy of Medical and Surgical Sciences, January 16, 1900.

the growth spreads over the entire ocular conjunctiva, and covers the cornea. Often, however, the sarcoma does not form an integral part of the corneal tissue, at least not to any great extent, but lies on the cornea, from which the sarcoma can be lifted and removed by dissection in the earlier stages of the disease. The slowness of the extension of the growth into the cornea is explained by the non-vascularity and density of this structure. In its extension the sarcoma creeps along the blood-vessels of the conjunctiva, and upon Bowman's layer under the epithelium of the cornea. The progress of the tumor into the parenchyma of the cornea or sclera is preceded by the formation of new blood-vessels. Along these vessels the pigmented elements of the tumor creep, and the lamellæ of the cornea and sclera are destroyed.

As regards the later history of such cases, Alt[5] says: "It does not seem to be known whether such new formations lead later on to rupture of the cornea, or whether they may grow into the interior of the eyeball." The growth of a sarcoma of the conjunctiva is slow.

Removal of the growth at an early stage will sometimes never be followed by recurrence *in situ*, but after many years a similar growth may appear in another part of the limbus of the same eye, as happened in the case occurring in the clinic of Arlt, of Vienna.[6] As a rule, however, removal of the growth is followed by a return within a few months, and the eyeball must be sacrificed. Whether there is any relationship between sarcoma and nasal polypi, I am unable to determine; but it is an interesting fact that in the case herewith reported the patient's nasal chambers were filled with polypi, and a microscopic examination of the ocular growth showed it to be a small round-cell sarcoma partly undergoing myxomatous degeneration.[7]

Sarcoma and carcinoma of the choroid by metastasis are so rare that almost no literature can be found on the subject. As regards metastatic carcinoma of the choroid, Dr. Lagrange, of Bordeaux, reported to the Paris Ophthalmological Society, in 1898, a case of this character which makes the nineteenth on record.[8] I am unable to state how many cases are recorded of metastatic sarcoma of the choroid, but they must be few. Several years ago, in my service in the St. Louis City Hospital, I met with a metastatic sarcoma of the choroid which involved all the orbital contents and was sequent to a sarcoma of tne leg.

The rarity of metastatic growths in the eye is accounted for by anatomic conditions: the small size of the ophthalmic artery, and the fact that it is given off from the internal carotid at an angle of ninety degrees. Metastasis is more common in the left eye than the right, owing to the difference in the carotids. The left carotid receives emboli more easily than the right, inasmuch as it arises from the aorta directly. Metastatic growths arise most often at the posterior pole of the eye, owing to the greater caliber of the short ciliary arteries. Lagrange states that metastatic carcinoma of the choroid is usually a bilateral disease, and that it always shows itself first in the macular region. Of the nineteen cases recorded, in sixteen the primary carcinoma was situated in the breast, once in the stomach, and twice in the lungs. In five of these cases the disease was present in both eyes when the patients first came under observation; in two the second eye became involved within a few weeks; in the cases in which the one eye only was attackt the left was the affected organ. In three cases only the right eye was the primary seat of the disease.

SYMPTOMS.

A sarcoma of the conjunctiva begins as a small mass at the corneo-scleral junction. It is often pedunculated, soft and liable to bleed. It has a warty or mammillated, or possibly smooth surface. As a rule, its color is dark brown, or reddish-brown or almost black, except the leucosarcomata. De Schweinitz[9] speaks of their color as reddish-white, and this term describes my case. When first noticed the growth may be the size of a millet seed. The manner of extension of these growths already has been explained. If permitted to remain they reach an enormous size, as in the cases delineated by Von Ammon[10] and other old writers. Weeks[11] speaks of the extension of these growths to the cervical glands and to distant parts by metastasis. Schmidt-Rimpler[12] says sarcomas of the conjunctiva form extensive lobulated tumors, which bleed readily.

The description given by most ophthalmic writers of the symptoms of this disease is very brief. Few of them speak of pain. This symptom seems to be present in the earlier stages only as a dull, heavy ache, but later becomes excruciating and extends thruout the corresponding side of the head.

DIAGNOSIS.

The diagnosis of the nature of a growth in the conjunctiva may be difficult or impossible in the early stages; in fact, it may be impossible to make a diagnosis until after removal and microscopic examination. Many benign growths occur in the conjunctiva; among which are dermoid, lipoma, polypi, papilloma, granulation tumors, angioma, osteoma, cysts, cysticercus, and lymphectasia. The malignant growths are sarcoma and epithelioma. I will attempt to give briefly the characteristics of each of these growths:

First.—The dermoid tumor is congenital; usually is a flat, solid growth with a reddish color; is situated partly in the conjunctiva, partly in the cornea, and is anchored to the latter. Often the surface is dry and covered with downy hairs. Frequently other congenital anomalies are present. This tumor is practically an island of skin planted on the eyeball. Histologically it presents a connective-tissue stroma, covered with epidermis, and containing hair follicles, sweat and sebaceous glands. If thoroly removed it does not return.

Second.—Another congenital growth is the lipoma, which may be single or multiple. These tumors often are quiescent until the time of puberty, when they begin to grow. A lipoma is covered by conjunctiva, is movable upon the eyeball, presents a yellowish color, and usually forms only one tumor mass, but exceptionally is lobulated. It may reach the size of two centimeters in length by one centimeter in breadth, but is generally half this size. Usually this is the only growth present, but Fuchs[13] shows an illustration of a subconjunctival lipoma and a corneal dermoid in the same eye of a girl aged thirteen; and Burnett,[14] under the name dermolipomata, describes tumors containing both fat and skin elements. These tumors do not return after removal.

Third.—The polypi, papilomata, and granulation tumors can be described together. Polyps are soft or semi-solid pedunculated tumors, covered by mucous membrane, and generally spring from the fornix. Usually small and hidden, they may grow and project from between the lids. They may become ulcerated. Histologically they are small fibromata pushing the conjunctiva in front of them. The papillomata spring from the caruncle, are composed of connective tissue and blood vessels, and bleed easily. They are not smooth like the polyp, but present a papillary nodulated or cauliflower-like appearance, have a broad base, and are likely to recur. The granulomas resemble polyps, but differ in this respect: that they are not covered by conjunctiva, but are naked granulation masses. They arise from surfaces made raw either by ulceration or operation; are often found after an operation for strabismus, enucleation, or chalazion. They cause bloody tears and many of the miraculous instances of bloody lachrymation can be thus explained. They are soft, irregular on the surface, but often become smooth from friction. They may expand so as to cover one-half the inner surface of the upper lid. They should be removed by the scissors and the base cauterized. If this be thoroly done they do not return.

Fourth.—Primary angiomata of the conjunctiva are very rare, are congenital, and increase in size after birth. They spring from the caruncle. The angiomas found about the eye usually spring from the eyelids or depths of the orbit. I have seen one case of angioma of the retina involving also the tissues of the orbit and side of the face. Enlarged tortuous veins in the conjunctiva are often present in glaucoma and in the eyes of alcoholics. The varix is sometimes seen as a blue mass of veins, pyramidal in shape, the apex pointing towards the cornea. Phleboliths have been found in these masses. Pressure will empty these tumors, and ligation is the proper treatment.

Fifth.—Very rarely osteoma or fibro-osteoma has been found in the conjunctiva of young subjects. They are presumed to be congenital.

Sixth.—Cysts of the conjunctiva are usually small vesicles. Those found in the ocular conjunctiva generally arise from dilated lymph vessels. Larger cysts beneath the mucous membrane arise from the cysticercus cellulosæ. They are generally found in children or young subjects. Early in its history the cyst is transparent and the head of the animal may be seen. The overlying conjunctiva becomes inflamed and opaque, thus making the diagnosis difficult. The most common site for such a cyst is beneath the ocular conjunctiva. Rarely is it found in the fornix or palpebral conjunctiva. Juda,[15] of Amsterdam, has recorded an interesting case of cyst of this character in a boy six years old. The cyst occupied the space between the cornea and caruncle. Cysticercus is rare in all countries except Iceland, Finland, Northern Germany, and Manitoba. The parasite may be found in any part of the eye or orbit. In Northern Germany, Graefe saw eighty cases in eighty thousand cases in the deeper parts of the eye; three in the anterior chamber, five beneath the conjunctiva, and one in the orbit. Only two or three cases have been seen in the United States.

Burnett has recorded an interesting case of hematoma of the conjunctiva. The tumor was the size of a pigeon's egg, filled with blood, and communicated with the interior of the eye by a small opening. Simple cysts of the conjunctiva have been traced to a dilatation of a gland of Krause by Rombolotti,[16] of Pavia, and others,

Seventh.—The lymphectasiæ result from obstruction to the flow in the lymph channels of the conjunctiva. The lymphatics appear like small transparent beads, generally placed in the palpebral fissure, midway between the cornea and canthus. Leber reported one case in which the lymph was periodically mixt with the coloring matter of the blood—lymphectasia menorrhagica.

Eighth.—It is between the epitheliomata and sarcomata that the difficulty in diagnosis is greatest. On this subject our books are strangely silent. After a perusal of the works of MacKenzie, Williams, Swanzy, Stilling, Hansell and Bell, Schmidt-Rimpler, De Schweinitz, Noyes, Fuchs, Wells, Stellwag, Oliver, Roosa, Fick, Berry, Juler, Thompson, Nettleship, and others, including Norris and Oliver's monumental "System of Diseases of the Eye," I am of the opinion that the literature of conjuctival neoplasms is very deficient. Some man, with large clinical experience, accurate pathologic knowledge, and leisure, can make a reputation in ophthalmology by working in this field.

I do not know of any way by which a clinical diagnosis between epithelioma and sarcoma of the conjunctiva can be made at an early stage. In the case reported this evening, altho inclining to the diagnosis of sarcoma, I was not sure until after the microscopic examination. If diagnosis is difficult in so advanced a case, one can well believe it to be impossible at an early stage.

PROGNOSIS AND TREATMENT.

As an example of the inefficiency of our text books, permit me to call attention to the fact that in Norris & Oliver's System of Diseases of the Eye, the author of the chapter on diseases of the conjunctiva (Burnett) does not say one word directly bearing on the question of prognosis in malignant disease of the conjunctiva . If the new growth lies superficially it can be excised and may never return, or may recur after a long interval. Meanwhile the patient has the inestimable advantage of the use of the eye. If the growth has involved the sclera the surgeon must make a more radical operation. If the schleral involvement is small, a Mules' operation—insertion of artificial vitreous—will insure a good stump for an artificial eye and reasonable immunity from recurrence; if the sclera is extensively affected an enucleation must be made. Of course the reader understands that these remarks apply to conjunctival and sub-conjunctival growths, and not those which arise in the periphery of the iris or the ciliary body. According to Schweigger's experience these sarcomata lying superficially are relatively benignant.

In metastatic carcinoma of the choroid death occurs in about a year.

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7. The microsocpic examination was made by Dr. R. B. H. Gradwohl, of St. Louis.
8. *Medical Press and Circular* (London), March 28, 1898.
9. De Schweinitz: Diseases of the Eye, p. 261. Philadelphia, 1899.
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HEMMETER (Journal of the American Medical Association) accepts as correct the statistics showing the increase of cancer, and points out the different diagnostic marks, constipation, emaciation, absence of HCl, and increase of lactic acid, which last he thinks does not occur sufficiently early to be a good diagnostic sign. The microscopic examination shows minute fragments of cancer tissue and the so-called Oppler-Boas bacilli, both of which are important features. The examination of the urine has not often proved of value. The blood examination is useful in distinguishing from pernicious anemia. The presence of tumor is important and valuable as a sign. He notes the difficulties of differentiating cancer from hypertropnic pyloric stenosis and from diseases of the stomach associated with absence of HCl. There are, in his opinion, only two methods of making a positive early diagnosis of gastric cancers, one by curetting the stomach and examining the products, and the second by exploratory laparotomy.

THE STIGMATA OF HYSTERIA.*

BY BYRON ROBINSON, B. S., M. D., CHICAGO, ILL.
Professor in the Chicago School of Gynecology and Abdominal Surgery.

The following will be found of import in the recognition of the hysteric degenerate:

1. HYPERESTHESIA OF SKIN.

Hyperesthesia of the skin consists essentially in exaltation of the sensory periphery. These areas, hysterogenetic zones, are especially found on the skin of the abdomen. They are painful or oversensitive to the touch. The patient is often deceived by thinking that the pain in the skin of the groin refers to the ovary. Hysterogenetic zones, or hyperesthetic areas, may occur all over the body, but in the sexual region they are apt to be more typical on account of the patient's attention being directed to them. The skin over the kidney may be so hyperesthetic and tender that grave kidney disease may be suspected. The skin over any abdominal viscus may be so tender that touching it induces the patient to scream, while the viscus itself is quite healthy. Hyperesthesia exists chiefly on the right side; pinching or pricking the skin enables one to discern its zones.

Hyperesthesia of the skin of the abdomen may, of course, exist with as well as without disease of the sexual organs; this must always be borne in mind. Indeed it is more liable to exist with diseased genitals, as the genitals may be the debilitating agent inducing the hysteria. Patients who are disturbed by crawling sensations on the skin, as of snakes or ants, have hyperesthesia, and hence usually have hysteria. Hyperesthetic spots anywhere on the body are as a rule stigmata of hysteria. The hyperesthesia of the skin may change its location. The frequency of skin hyperesthesia in the clinic induces me to believe in the wide distribution of hysteria independently of gynecology.

2. ANESTHESIA OF SKIN.

Anesthesia of the skin is also another stigma of hysteria. This is not so frequent in the clinic. Such a patient complains of the skin being numb and without feeling. It is located perhaps most frequently on the skin of the abdomen. Anesthesia exists chiefly on the left side of the body.

3. ANESTHESIA OF MUCOSA.

Anesthesia of the mucosa is one of the stigmata of hysteria seldom absent. The test is easily made by taking a pin with a small glass head and rubbing it over the eyeball. If the conjunctiva bulbi is anesthetic, one can rub the pinhead over the eyeball without a wink or flinch from the patient. Normally the conjunctiva is very sensitive, and to touch it produces reflex actions, tears, and pain. Rarely in hysteria does the rubbing of the pinhead on the eyeball produce reflexes, tears, or pain. Of course there are many grades of anesthesia of the conjunctiva bulbi. Corneal anesthesia is the least frequent.

Anesthesia of the throat is tested by a lead pencil or sound. On rubbing the mucosa of the throat no reflexes or pain arise. As Windscheid remarks, however, the diagnosis of hysteria should not be made from anesthesia of the throat alone, as in healthy subjects the mucosa of the throat may show various degrees of anesthesia; as well as under the influence of certain drugs.

4. HYPERESTHESIA OF MUCOSA.

Hyperesthesia of the mucosa must be remembered among the stigmata of hysteria, tho it is infrequent. The persistent feeling of animals crawling in the tractus intestinalis is no doubt a symptom of an overtender mucous membrane. The sudden expulsion of unchanged foods from some stomachs immediately after eating is no doubt due to hyperesthesia of the gastric mucosa.

5. HYPERESTHESIA OF VISCERA.

Hyperesthesia of the viscera is one of the known stigmata of hysteria. Perhaps visceral hyperesthesia exists most frequently in the ovary. In such cases the ovary is hypersensitive to touch, yet normal in size and position, perfectly mobile, with no peritoneal adhesions or fever. Castration does not affect the pain, unless to exacerbate.

The irritable uterus of the old doctors is undoubtedly of hysteric nature. To show that such cases are hysteric, the uterus, oviducts, ovaries, and spleen have been removed, but the pain has persisted just as before the operation.

Vaginismus is perhaps as typically hysterical as any example of the viscera. It may be called up even by the mere thought of touching the vulva. It is chiefly of psychical origin and occurs in neuropathic individuals. The hymen has been extirpated in vaginismus, but without good effect.

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*Abstract. Full paper appears in *Western Medical Review.*

There can be little doubt that hysteric bladders frequently arise in practice. I myself once treated a patient during two years for an hysteric bladder. Drugs had little or no effect. Rest in bed made no change. Suggestion proved the best treatment. The urine was normal. It was the so-called irritable bladder hysteria.

The patient with irritable or hysteric uterus is the one who prepares for her child's advent by making the clothing, sending for the midwife, and suffering from labor pains, finally calling the obstetrician when labor does not complete itself, only to find that she is not even pregnant. She is misled by her irritable, hyperesthetic, hysteric uterus. The abdominal cramps, colic, etc., of certain neuropathetic patients are doubtless due to visceral hyperesthesia or hysteria.

6. MUSCULAR STIGMATA.

The muscular stigmata of hysteria are quite common and consist of paresis or paralysis or of exaggerated contraction of one or more muscles. When the tongue temporarily ceases to act with subsequent normal action the complaint is quite sure to be hysterical in nature. Globus hystericus is simply exaggerated activity of the esophageal and gastric muscles. Hysteric knee is spasmodic contraction of the muscles supplying it. The lost voice is frequently of a hysterical nature, due to disturbances of laryngeal muscles. The "lumps" or tumors in the abdomen of many patients are simply the contractions of certain abdominal muscles, and are frequently accompanied by hyperesthesia of the skin over them. The patient complains of a tender tumor. The diaphragm or groups of muscles become spasmodic. Another stigma of hysteria is perverted mental action.

Hysteria as chiefly manifest to the gynecologist is a psychical disease. It is a part of a neurosis, very changeable, and ever presenting new pictures. It doubtless rests on a psychopathic condition; the psychosis rests also, no doubt, on a defective system. An irritable weakness exists in the nervous system. The central or peripheral nervous system is defective. The hysteric condition is especially susceptible to influence or suggestibility.

7. EXALTATION.

Exaltation of special senses may be found. (*a*) The olfactory nerve is exalted. The patient smells intense or unaccountable odors. (*b*) The sight organ is exalted and the curtains must be all drawn down. Light is not tolerated. (*c*) Hearing becomes so exalted and sensitive that one must not walk across the floor or jar the bed; even some distant ticking clock must be stopt. (*d*) Organs of taste are disordered, exalted, or vicious. These special exaltations persist for indefinite periods.

Hereditary or congenital defect is a large factor in most of these patients. Whatever debilitates the nervous system, local or general, invites hysteria as a provocative agent. It should be remembered that genital disease of infectious nature is debilitating, and hence is followed frequently by hysteria. Sexual disease in man or woman no doubt plays a vast role therein. Of special interest are the hyperesthetic zones of the abdomen—*i e*, the periphery of its sensory nerves.

8. HYSTERICAL PAIN.

Hysterical pain is the irritation caused by disturbances in the cerebro-spinal system. This pain is limited to no organ or nerve zone. It exists perhaps equally among men, women and children. Hysteria has no more to do with the uterus than with the liver or testicle. It is not a gynecologic disease. It exists independently of nerve distribution. It is not influenced by rest and scarcely perhaps by drugs. The fundamental cause of hysteria is heredity, the transmission of defects or of a neuropathic condition. The provocative agent of hysteria is some debilitating effect, mental or physical.

9. OTHER SIGNS.

The two chief therapeutic agents for hysteria are (*a*) suggestion and (*b*) limited galvanic electricity; surgery has little to do.

When a rational treatment is systematically carried out against a painful local disturbance without effect, the probability is that it is an hysteric hyperesthesia. The excessive vomiting of pregnancy often has an hysteric base—hyperesthesia of the gastric mucosa. In the same hysterical category must often be numbered coccygodynia, coxalgia, irritable bladder, breast, and uterus, vaginismus, pruritus, dysmenorrhea, and lumbo-sacral symptoms. A knowledge of the above factors is particularly valuable to the operator, as the sweeping removal of organs for neurosis or hyperesthesia is criminal. Remember that morbid sensibility lies chiefly in the skin, and the patient will complain more of a skin pinch than a deep-seated injury. What the hysteric coxalgia or hysteric knee is to the surgeon, so is the hyperesthesia of the abdomen to the gynecologist.

DR. JOHN B. DEAVER, author of an extensive work on appendicitis, is becoming an earnest advocate of early operation in every case. He recently declared: The surgeon who waits in the case of appendicitis for the appearance of severe symptoms, or, worse yet, waits until the symptoms increase in severity, for an indication to operate, will have many unnecessary deaths to his credit.

IT should always be remembered that quite severe mental symptoms sometimes accompany retroversion of the uterus—even tho no adhesions are present; and that early correction of the malposition may effect a cure.

EXCELLENT results are still being reported from the injection of iodoform emulsions into tuberculous joints. Better statistics might be obtained by earlier recognition of the tuberculous character of the synovitis. A point of importance is that tuberculosis is usually limited to *one* joint; rheumatism affects more than one.

IN operating about the head or face of a child it is well to envelop each elbow with a few turns of plaster-of-Paris bandage. This allows free motion of the hands and arms, but effectually prevents picking the wound with the fingers.

International Journal of Surgery says: In children enlarged lymphatic glands about the neck are frequently due to enlarged tonsils or to the presence of adenoids. The throat must, therefore, always be carefully examined in these cases, for removal of the tonsils or adenoids will cause the glands to subside. In adults enlarged glands are very suggestive of the presence of malignant trouble, and necessitate careful examination of the whole mouth and throat.

DR. A. H. LEVINGS, Professor of Surgery in the Milwaukee Medical College, says: If a divided nerve be immediately sutured, or if a gap caused by resection be immediately bridged with some suitable material, and the work be done aseptically and properly, but slight degenerative changes will take place either in the distal or proximal portion of the nerve; and the nerve's function will, in the great majority of cases, be quickly re-establisht.

A NEW method of transplantation of the ureters has been devised by Dr. F. H. Martin, Professor of Gynecology in the Chicago Post-Graduate Medical School, designed for dealing with the ureters in cases where extirpation of the urinary bladder becomes necessary. From experiments on dogs he has found that the rectum makes a fairly good receptacle for the urine, but that implantation of the ureters as has been heretofore proposed results in infection of the kidney, and subsequent death from nephritis. He has therefore attempted to obviate this evil, and has succeeded by so placing the ureters that they will empty in the direction of the long diameter of the rectum, in the walls of which they are buried longitudinally for a distance of an inch or more. By so doing, in the act of defecation, the fecal mass will squeeze the calibre of the ureters closed by its pressure on the mucous membrane, and the pressure being exerted from above downwards in the direction of the onward flow of the urine, will empty the ureter by a milking process.

AN OPERATION on an insane patient at the Wisconsin State Asylum at Mendota, for the relief of perforative peritonitis, revealed in the stomach and intestines a half pound of nails of all sizes, two pocket-knive blades and several twisted pieces of wire. Some of the nails were extensively corroded, showing that they had probably been in the stomach for some time. As far as saving life was concerned, the operation, owing to the advanced disease and serious nature of the lesions, was a failure, but the findings are interesting.

Porro advocates the following method for reducing strangulated hernias: The pelvis is raised upon a pillow, thighs flext and *abducted*; " the scrotum and hernia are seized by the left hand and elevated toward the abdominal walls, and pressure made upon them. The index finger of the right hand is past into the inguinal canal, and by a boring and rotating pressure is directed toward the horizontal portion of the pubis." In a short time the hernia disappears. He has succeeded in six instances where taxis as ordinarily employed had failed.

W. J. Mayo, of Rochester, Minn., in an article on "The Esophagus, Cicatricial Contraction Thereof; Its Treatment" (*Journal Am. Med. Asso.*, July 29, 1899), formulates the following conclusions: (1) Systematic sounding should be commenced in from one to four weeks after the swallowing of a caustic substance. (2) Should the traumatism be severe, immediate gastrostomy will lessen infection, and hasten cicatrization, sounding being carried on as before. (3) Non-dilatable strictures in the vicinity of the cricoid cartilage should be divided by external esophagotomy. (4) Stricture above the arch of the aorta may be safely cut by a combined internal and external esophagotomy. (5) Dense thoracic strictures are best dilated by Ochsner's method, and, if necessary, divided by Abbe's string saw. (6) Impassable strictures should be treated by retrogade dilatation. (7) A dilated stricture should be occasionally sounded for years, if not for life.

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The spelling found in this magazine is that voucht for by the most prominent educators of this country, and is recommended for general adoption.

ST. LOUIS, JANUARY, 1900.

EDITORIAL NOTES.

SURPRISE is often exprest that St. Louis has so few medical journals of excellence; in fact, with about four exceptions, the medical publications of this city are a disgrace to journalism. The explanation is easy, based upon two reasons: *First*, mental inertia on the part of men who ought to be frequent contributors to medical journals; *Second*, want of support by home advertisers. The first can be readily overcome by publishing contributions from men of prominence in other cities—since St. Louisans are too lazy, too indifferent—or happily, too busy—to prepare anything beyond testimonials of the efficacy of some proprietary medicine; for a consideration, of course. The second is disgraceful, and has been feared by some to be permanent. With two or three prominent exceptions, the medical advertisers of St. Louis (and they are many), discriminate against home publications, giving their patronage to journals of every other city, and even villages, but sedulously avoiding the insertion of an advertisement in any St. Louis magazine that will not prostitute itself by publishing page after page of trash; testimonials recommending "fecol" for sore mouth, "salival" for piles, "penisol" for vaginitis, et cetera ad nauseam.

ON money received from the great proprietary houses of St. Louis subsist journals of more than questionable character, the owners or editors of which will promise anything, do anything, to "secure a contract," agreeing to send out so many thousand copies of each issue regardless of their subscription (or no subscription) lists or the postal laws. Just so they are able to exhibit "postoffice receipts" showing that a certain number of copies have been mailed—preferably to the great unwasht element of the profession—they get the orders for advertising on which they thrive; while legitimate publications, like the *St. Louis Courier of Medicine*, striving to maintain a decent existence, receive neither encouragement nor support from the wealthy proprietary medicine manufacturers of the city. These business men would prefer the better journals, but "we must have low rates, and we MUST have clinical reports and testimonials in the body of the journal, appearing as pure reading matter—no puffs, no cash." And there's the secret! 'Tis a shame—a disgrace on the name of St. Louis! But the day will come, and that quite soon, when they will see the error of their way; when they will lend their aid to the better publications, and when they will reap a greater reward than now.

OF course, remedies which appeal to "the submerged third" who read nothing but sample copies of the *Medical Defecator*, can not prosper on the support of the better class of doctors who subscribe to legitimate publications; "snide remedies" require "snide journals"; if the proprietors realize the weakness of their preparations they will naturally continue to encourage journals of the class of which the much-abused *Medical Brief* is by far not the worst representative—"there are others," even in St. Louis, beside which the *Brief* is a paragon of perfection. If, however, they have faith in the value of their mixtures and desire a permanent business, they must of necessary strive to reach the better class of doctors—educated, cultured gentlemen who, thank God and State Boards of Health, are rapidly superseding the great horde of illiterates in every part of the country. To reach them requires the use of journals of good repute, of valuable contents, of sterling character. Manufacturing chemists can see the point of this argument without doubt; legitimate medical journals will reap the reward.

WELCOME news is the report that the St. Louis Medical Society has voted to so amend its charter as to enable it to expel, censure or suspend any of its members convicted of dishonorable conduct. This is the first step in the right direction, and is an action which speaks well for the future of medical matters in the State of Missouri. True it is that this vote of the society will not entitle it to representation in the State Medical Association this year under a strict construction of the language used in the resolution of condemnation adopted at Sedalia last year; for the simple vote of the society affirming that its charter shall be so changed, does not, and can not, alter the charter of that body. The St. Louis Medical Society obtained its charter by an enactment of the Legislature, and that charter can not, therefore, be amended except by a special bill past by the Legislature. 'Twould have been easier to surrender the old charter and begin anew with a new one granted by the court, but there will be time enough in the year 1901 to secure the special legislation necessary. In the meantime medical men of the State will do well to "accept the word for the deed," and so modify the resolution of 1899 as to admit approved delegates from the condemned society at the next meeting of the State Society.

IN view of the large number of doctors of quackish propensities, newspaper advertisers and the like who can not be expelled from the St. Louis Medical Society until the charter is changed by legislative enactment, it will be well for that society to pass a resolution requiring men who desire to attend the Missouri State Medical Association and the American Medical Association to announce their candidacy at least two weeks before the meetings of their respective societies; and then require a ballot with a three-fourths majority necessary for election—selecting the physicians who shall represent the local society in the State and National organizations. By such a procedure the men who have rendered themselves conspicuous before the public and obnoxious to the better element of the medical profession of the State will be left at home to meditate over their evil ways. In this way the local society may certainly redeem itself in the opinion of the ethical members of the profession.

THE action of the State University of Missouri in making its medical department at Columbia free to all residents of the State may not, and probably will not, meet the approval of those medical editors who own stock in some medical college conducted in the interests of its faculty; but it is a step in the right direction. The time will come when young men suitably adapted to the practice of medicine will be educated at the expense of the people; will, upon graduation, become salaried officers whose duty will be the preservation of the health of the community; and will, upon reaching a certain age, be retired upon a pension suitable to meet their wants for the remainder of their lives. Therefore, tho opposed to the interests of those financially involved in private medical schools, the action of the Missouri University is a wise one.

THE Western Surgical and Gynecological Society held an interesting meeting at Des Moines, December 27 and 28, papers being read by some of the most prominent medical men of the West. Dr. H. C. Crowell—a noted gynecologist of Kansas City—presided, assisted by that efficient secretary, Dr. Geo. H. Simmons, of Chicago. Dr. O. Beverley Campbell, of St. Joseph, was elected President; Dr. A. C. Bernays, of St. Louis, Vice-President; Dr. Geo. H. Simmons, of Chicago, Secretary. The next meeting will be held at Minneapolis, December 27 and 28, 1900.

ON THE first Tuesday of April, 1900, there will be held in St. Louis one of the most important medical meetings of the year, that of the Tri-State Medical Society of Illinois, Iowa and Missouri, under the presidency of Dr. O. Beverley Campbell, of St. Joseph. A large number of papers have already been promist by leading medical men of Chicago, Kansas City and St. Louis, but it is desired to have a still larger list from the practitioners of the smaller cities of the three States. Any reputable physician is entitled to a place on the program. Titles should be sent soon to the secretary, Dr. J. C. Murphy, 4256 West Belle Place, St. Louis, or to the editor of this journal. It is expected that fully 500 doctors will be in attendance, preparations for the entertainment of whom are already being made.

IN THE death of Dr. Henry H. Mudd the medical profession of the West loses one of its most prominent members. Occupying the chair of surgery in the St. Louis Medical College for many years, he was of necessity a conspicuous figure in medical affairs of the Mississippi Valley. But far more than this, his cool, calm judgment, his conservative ways, his surgical skill—all made him a greater reputation than his college connections. Far better qualities than being "a good teacher" bring success nowadays; a professorship

in a medical school is not now an essential to surgical renown—some of America's greatest operators to-day have no college chairs to fill. So Dr. Mudd's title to remembrance will not be so much his lectures and his demonstrations as the many brilliant results obtained in his surgical and medical career. He was sometimes accused of huge mortality rates in certain lines of operative work. This is the fate of men who care more for the saving of one human life than the preservation of a low death rate in mortality reports; the true surgeon will give a fellow-creature even a 1 to 1000 chance regardless of his own reputation. As none but the departed surgeon can know of the odds against which he oft contended, the living must not judge. Like every other conscientious operator he calmly assumed the risk; if the patient died the daring surgeon deserved no less of praise; it was the courage, not the result, which merited commendation, for everyone who knew him well attested his want of rashness. Excellent, enduring results he must have had without number, otherwise his popularity with doctors and with laity must have waned; as it was he died at the height of his reputation, at the age of 55. Peace to his ashes.

Dr. E. R. Axtell, editor of the Colorado *Medical Journal*, Denver, died December 14, of septicemia, the result of an autopsy held at the County Hospital. He was a valued teacher in the Medical Department of the University of Denver, a respected physician and a successful medical editor. He was a graduate of the Miami Medical College, Cincinnati, of the class of 1888.

Hon. D. W. Shackelford, Congressman from Missouri, has introduced a bill in the House of Representatives allowing wood pulp (suitable for manufacturing paper) and all printing paper to be admitted to the United States free of duty. This is a blow at the great "Paper Trust," which has advanced the price of white paper almost two-thirds during the past few months; and will be appreciated by every publisher in the country. If it becomes a law it will prevent a rise in prices of many periodicals, for some—like medical journals—are being publisht at so close a margin that unless the bill pass the price of the journal, magazine or newspaper must be raised or else publication discontinued.

SURGICAL NOTES.

It should be remembered that gastric ulcer becomes a surgical disease quite often—*i. e.*, susceptible of cure by surgical measures. Operative treatment is indicated whenever the disease is unduly prolonged; it is imperative when perforation occurs—at the earliest possible moment; it is advisable whenever there is long-continued leakage of blood, especially if there be dilatation of the stomach; and it is especially valuable in cases characterized by repeated severe hemorrhage.

Dr. J. E. Allaben, of Rockford, Ill., contributes a valuable article to Journal of the American Medical Association of November 25, 1899, on "Obstructive Growths of the Pylorus," with a report of a successful pylorectomy. The patient was a woman of 28, who for ten months had suffered from pain in the right hypochondrium, vomiting soon after eating, and other symptoms of pyloric obstruction. There had been progressive loss of flesh and a somewhat

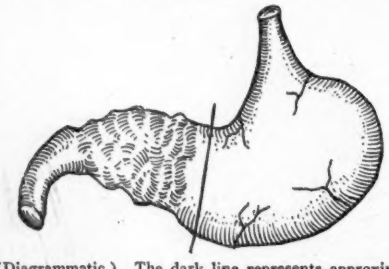

Fig. 1.—(Diagrammatic.) The dark line represents approximately the location of the pyloric amputation.

fixt tumor was felt in the pyloric region. Exploratory celiotomy was performed and a growth was found involving nearly a third of the stomach; there were no adhesions to the pancreas or liver. Pylorectomy was performed by resecting the growth, closing the stomach-wound to the lower angle by continuous Lembert sutures and making anastomosis with the duodenum by means of Murphy's button; and the abdomen was closed. Rapid recovery following, the patient left the hospital and remained in good health until one and one-half months after the operation, when she began to be troubled with griping pains. Shortly after this she was suddenly taken with symptoms of perforative peritonitis and in spite of an operation, draining the abdominal cavity, she died two days later. A necropsy was made which showed that there was perfect union between the

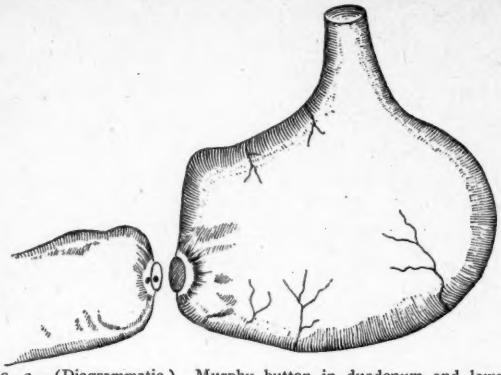

Fig. 2.—(Diagrammatic.) Murphy button in duodenum and lower angle of stomach ready for approximation.

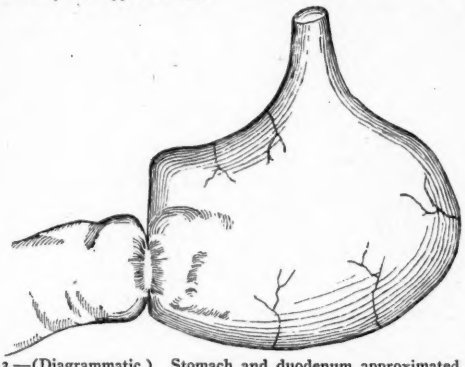

Fig. 3.—(Diagrammatic.) Stomach and duodenum approximated by means of the Murphy button.

stomach and duodenum, but perforation of the transverse colon had resulted from the Murphy button. The pathological report con-

Fig. 4.—Photograph of pyloric end of stomach after lying in alcohol 1½ years. (¼ nat. size.) P. pyloric orifice.

Fig. 5.—Photograph of pyloric end of stomach after lying in alcohol 1½ years; showing point of amputation. (¼ nat. size.)

Fig. 6.—Photograph of a portion of the transverse colon. *a*, stricture near hepatic flexure, *b*, stricture near splenic flexure; *c*, point of perforation and lodgment of Murphy button.

firmed the clinical diagnosis of carcinoma of the pylorus. The doctor, from his study of the subject, draws the following conclusions:

(1.) Cancer is one of the most potent factors in the causation of death with a tendency to constantly increase in frequency of occurrence. (2.) Gastric cancer occurs in about one-fifth of all primary cases. (3) In gastric cancer the pyloric region is affected in 60 per cent of the cases. (4.) The treatment of gastric cancer directed toward a permanent cure is, in the present state of our knowledge, limited wholly to surgical methods. (5.) As early total extirpation of malignant growths with the hope of permanent cure, is the goal toward which we are constantly striving, and as these growths in gastric cancer occur at the pyloric region in 60 per cent of the cases, it would seem to follow as a natural conclusion that pylorectomy would be the treatment most frequently employed for the cure of this malady. (6.) Inasmuch as early diagnosis is the greatest requirement the internist and the surgeon should turn their best efforts in this direction. (7.) If the operation of pylorectomy be performed before obstructive symptoms manifest themselves and before the occurrence of metastasis, the immediate results will be as favorable as in any other abdominal work, and the remote results as good as in extirpation of carcinoma of the breast.

MEDICAL AGE, November 25, 1899, contains the report of a case of triple fracture of the forearm, by Dr. Chas. W. Hitchcock, of Detroit. The injury was the result of the arm being carried around a revolving shaft. The accompanying skiagraph shows the location of these breaks, two of which necessitated the use of silver wire to

keep them in proper position. Recovery was rapid and uneventful. To the surprise of the doctor free motion of the fingers was painless almost from the first, and early and excellent motion of the wrist-joint, which he naturally expected would be restricted, was secured without difficulty. He is now doing his usual work, and says he can now lift as much with the left arm as with the right, and use it about as freely. Supination is apparently the only motion impaired, and that but very slightly indeed.

At a meeting of the Cincinnati Academy of Medicine, September 25, 1899, Dr. S. C. Ayers presented a patient suffering from traumatic enophthalmos. The right eye, as one lookt at it, appeared shrunken, tho it was not. This sinking of the eyeball was due to the absorption of the orbital fat, the result of a trauma. The injury was received just about a year ago; he was struck across the eyebrow with a broomstick, producing a severe cut thru the skin into the tissues, which was followed by a very violent orbital cellulitis. In looking at him one would think that he had an artificial eye, so closely does it resemble one; also that the globe of the eye was shrunken, but it was normal in all its diameters, normal in its tension. There was a slight dislocation of the lens from the injury. A violent inflammation followed the accident, but it subsided in the course of time, leaving the eye in the condition now seen. When he tries to move the eyes upward the left eye rotates upward, but the right one does not follow it. He also has limited motion downward. The motion inward is normal, outward limited. Accidents of this kind are very rare. Some time ago De Schweinitz, of Philadelphia, collected a number of cases. There are twenty-six cases of this kind on record. In Dr. Ayers's patient the left palpebral fissure is eleven millimetres in width, in the right six millimetres, with the cornea three or four millimetres behind that of the left eye. As to the cause of this, it is very likely due to the inflammation which succeeded the injury, in which there was an absorption of the orbital fat, with a consequent sinking of the eyeball into the orbit.

Dr. A. M. Cartledge, of Louisville, declares: I think the prognosis of radical removal of cancer of the alimentary canal is the best of any part of the body. The rectum, in my experience, if the case is seen early enough, is certainly the best part of the body from which to remove a cancer, so far as permanent results are concerned. The same thing will apply to cancer of the sigmoid flexure.

Providence *Medical Journal*, January, 1900, contains an instructive report on nerve-grafting, by Dr. Frank E. Peckham, of Providence, R. I., Orthopedic Surgeon to the Rhode Island Hospital. He records the case of a man, aged 30, who had sustained a fractured spine (eleventh dorsal) in the fall of 1897. There resulted complete motor and sensory paralysis from the level of the fracture downward. A laminectomy was done, resulting in complete recovery of movement and of sensation in the left leg and the restoration of sensation, but no motion in the right leg, except that there was slight power in the rotators of the thigh and good power of motion in the gastrocnemius and soleus. The result was a contracted tendo-acnmes, and for this deformity, together with the paralyzed leg, the patient was transferred to the orthopedic service. November 11, 1898, about one year after the accident, it being thought there might be some pressure on the cord, forcible extension was made without ether, on a Goldthwait frame, and a plaster of Paris jacket applied. The result was negative. On December 6, 1898, the following operations were done under ether anesthesia: The tendo-achilles was first lengthened, then the popliteal space being opened, four nerve branches were found going from the internal popliteal directly into the heads of the gastrocenemius. Two of these branches were divided and grafted into the external popliteal. Finest silk sutures were used. The wound was closed and foot and leg encased in plaster. January 11, 1899, about five weeks later, the plaster was removed and there was found clearly some slight power in the extensor muscles. In the following week or ten days this power increast, but the gastrocnemius and soleus were so much more powerful than the extensor that the foot would be flext (plantar flexion) each time, notwithstanding the fact that there was a definite contraction in the extensor group. The patient left the hospital wearing a caliper splint to support the knee and has never reported since. In the fall of '98 another patient presented himself with the same condition, as regards the foot, as the case above reported, except that the condition was due to an infantile paralysis. The patient was a male, age 24 years, the acute disease occurring when fourteen years of age. There was present a contracted tendo-achilles and the toes were drawn slightly downwards (plantar flexion). There was complete paralysis of the extensor muscles. On November 17, 1898, the tendo-achilles was lengthened and on January 13, 1899, this patient consented to the operation on the nerves. Under ether anesthesia and the usual precautions, the popliteal space was opened and, as before, two of the four branches from the internal popliteal nerve were divided and grafted into the external popliteal. The usual dressings of plaster of Paris were applied. At the end of six weeks the toes could be extended (dorsal flexion) until they were perfectly straight, a motion that had been impossible until after this operation. This patient has recently reported and altho the amount of motion has not increast his movement is easier than formerly. In both of these cases there was no apparent weakening of the gastrocnemius and soleus muscles. Dr. Peckham makes a suggestion regarding technic: It would seem that the nerve plate-ending might be dissected out, or it might be localized sufficiently to take a certain small amount of muscle which would contain this ending, and this small mass of muscle might be implanted in the paralyzed muscle with a possibility of better transmission of nerve force.

GYNECOLOGICAL NOTES.

INCONTINENCE of urine is a very troublesome complaint in elderly (and sometimes in highly nervous) women. It is due to lack of control ot the vesical sphincter. Relief may often be given by one minim doses of tincture of cantharides in half a glass of water four times daily.

DR. H. H. SCHULTZ, of Sutton, Neb., reports that he attended a woman in confinement recently, delivering a girl baby which, three days after birth, had a discharge from its vagina, resembling menstruation, and continuing three days.

IN AN article on hemostasis in tubo-ovarian pedicle, Dr. T. B. Eastman, of Indianapolis, concludes: (1) Silk ligature is still used by many operators of ability, tho properly objected to by many of the most experienced surgeons. (2.) A silk ligature of proper size has some advantages over catgut. (3.) The silk ligature is probably the best ligature for the beginner and infrequent operator. (4.) Given an aseptic, strong catgut ligature it is perhaps the best for the skilled ligature tier. (5.) The angiotribe represents a step in the right direction, but is not yet perfected. (6.) The electrohemostat lacks but little of being an ideal hemostatic, and should come into common use in the treatment of tubo-ovarian pedicle.

The formula for Lutaud's lotion for pruritus vulvæ is as follows:

Chloral hydrate	10 parts.
Tinct. eucalyptus	10 parts.
Cocaine hydrochlorate	1 part.
Distilled water	500 parts.

Mix and apply whenever itching becomes severe.

International Journal of Surgery calls attention to the fact that pin worms about the rectum, in women, are a frequent source of pain which may resemble a good deal the pain of coccygodynia. In other instances they lead the patient to believe that some uterine disturbance exists.

AT A meeting of the Chicago Academy of Medicine October 13, 1899, Dr. Wm. Cuthbertson (Journal of American Medical Association) reported a case of bilateral dermoid cyst of the ovary. The interest in the case consists in the comparative rarity of bilateral ovarian dermoids. The patient was a young woman stenographer, 26 years of age, single, of good family and personal history. Her menstrual function, always normal, first made its appearance when she was 14 years old. About a year and a half ago she began to have pain in her abdomen and back, the backache being the more severe. She was referred to the doctor last June by Dr. E. A. Mowry, of Chicago, and a diagnosis of ovarian cyst was made. On opening the abdomen both tumors were lying behind the uterus in Douglas' cul-de-sac, the one over the other, and on inspection were found to be dermoid cysts. The right ovary was completely transformed into a cyst, while the left had a small portion of ovarian tissue remaining at its upper part in which was a freshly ruptured Graafian follicle. As there was no way in which to preserve any ovarian tissue, both ovaries were removed; the uterus, not being infected in any way, was left in situ. The patient made an uninterrupted recovery. After she left the hospital she began having symptoms of menopause—not having menstruated since the operation—such as hot flushes, chilly sensations, nervous feelings, etc. Ovarian extract was administered, and at last reports she is very much improved, the climacteric symptoms having greatly abated. Senn says: (Pathology and Surgical Treatment of Tumors), "a dermoid cyst is a teratoid tumor. It is called 'dermoid' because it contains skin derived from the epiblast by displacement of an embryonal epiblastic matrix, from which during the development of the tumor by proliferation of the skin and its appendages, the principal contents of the tumor are formed. Dermoids of the ovary arise as do dermoids of any other part or organ, from matrices derived from an erratic development in the ovary." This theory has never been satisfactorily proven in regard to ovarian dermoids.

THE relation of enteroptosis (Glénard's disease) to diseases of women is at present receiving markt attention. There is much of interest to gynecologists, therefore, in a synopsis made by *New York Medical Journal* of a paper by Dr. W. F. Hamilton, of Montreal. He says that notwithstanding the conflicting views concerning the classification of cases under this head, it may be accepted as safe teaching, at least for the present, that enteroptosis may exist without subjective symptoms. The enteroptosis of Glénard is usually, however, associated with the most pronounced subjective signs, chiefly of a neurasthenic type. In those cases where a pendulous abdomen is present, the nervous features are less pronounced than in thin subjects with flattened abdomen. Typical enteroptosis may result from inflammatory processes in the abdomen. Any of the abdominal organs may be displaced in this disease. Most frequently, however, the colon and small intestines, the stomach, the right kidney, and the liver are found in altered relations. The condition is due to an atony of the nervous system with a corresponding relaxation of the muscular structures of the body. Its predisposing causes are heredity, chronic disease, unhealthful methods of living, and the wearing of corsets. The disease is often to be lookt upon as a constitutional ailment. The diagnosis of enteroptosis is comparatively easy. The epigastrium is hollow; the two lower quadrants of the abdomen, even with the patient in a reclining position, are often quite prominent. It is most important to determine the lesser curvature of the stomach and its relation to the greater curvature. Where the lesser curvature can be demonstrated, some degree of displacement exists; the amount of displacement is to be measured by the relation of the lesser curvature to the umbilicus. Palpation usually reveals movable kidney, and the liver when displaced is usually more prominent in the epigastrium and may be easily rotated on its long axis. In the diagnosis of this affection Glénard laid special stress on a test which was applied by the examiner standing behind the patient, also in the erect position, and laying both hands flatly over the lower zone of the abdomen. Then firm but gentle pressure is made upward. In the great majority of cases this affords considerable relief to the distressing pain which is felt in the epigastrium and which is one of the patient's chief complaints.

Journal of American Medical Association thus summarizes a paper by Dr. Grace Peckham Murray on "Formative Period of Uterine Fibroids: The theories of the formation of uterine fibroids are not very satisfactory, but up to the present are as follows: 1. Cohnheim's theory, upheld by many others, that they are developt from embryonic tissue, the mesoblast. 2. Disturbance of the nutrition of the part thru interference with the blood-supply. 3. The microbic theory. She reports a number of cases, and from reviewing these, offers the following summary of suggestions and conclusions: 1. The possibility of determining definite clinical symptoms which would lead to a recognition of a distinct formative period of uterine fibroids, which might suggest a preventive treatment. 2. The predisposing causes of race, age—other than that of adult life—or condition count for little, and the elaborate reports which form the bulk of the literature up to the present time are of doubtful value. 3. The chronic inflammatory conditions of the endometrium, uterine parenchyma, and of the ovaries and tubes are most powerful predisposing causes, and there is a direct relation between the hyperplasia of the uterus and the formation of fibromyomata. 4. Extreme disturbances of the nervous system precede and accompany the formation of uterine fibroids. Insomnia, headaches, and hyperesthesia of the sensory organs are present to a greater degree than is usually found when the concomitant symptoms of the inflammatory condition of the uterus are present. 5. The evolution of the fibroid from the fibromatous centers, when it begins to take on growth, is exceedingly rapid, and it is impossible to tell the age of the growth by its size. The rapid appearance and development are the reasons why so few fibroids are seen and examined in their incipiency. The size and rapidity of growth depend on its blood-supply, which is determined from the beginning by the location of the nidus, and therefore such conditions as pregnancy or the menopause could have little influence. 6. The possibility of the action of curettage as a predisposing cause for these tumors on account of the violence done to the blood-vessels, and of hastening their growth, because of concentrating the blood-supply. 7. The crystallizing effect of Keiffer's experiments on the theories in regard to the formation of fibromyomata. He has demonstrated that the blood-supply is cut off from the uterine tissue, which then becomes condenst into whorls of fibrillæ which afterward develop into fibroids, obtaining their blood-supply from the surrounding uterine tissue. He has shown that the tumors are composed of a histologic structure in no way differing from the normal uterine tissue, save that which related to the concentric arrangement of fibrillæ. There was no evidence of embryonic tissue or new formation.

WHILE in gunshot wounds of the abdomen it is generally best to eviscerate at once and gradually replace the cleaned and sutured intestine, as a rule one should follow the advice of Dr. H. C. Dalton, late Professor of Abdominal Surgery in the Marion-Sims Medical College of St. Louis, viz.: In handling the bowel we should endeavor to keep it within the abdominal cavity as much as possible. The dragging of the bowel upon the mesentery, the chilling of the same by contact with the air, the bruising resulting from manipulation, are all potent factors in adding to the shock, and thus lessening the chances of recovery.

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IMPERIAL GRANUM HISTORY.

There was a time when Imperial Granum was pushed in the newspapers and magazines in a liberal manner. Prosperity, however, begat economy and the advertising was cut down until the announcements appeared only in medical papers, the argument being that the co-operation of the doctors was all that was needed to keep up the sales. But the scheme didn't work. The ads failed to get the business thru the doctors who had other things to think about besides recommending Imperial Granum. And so it comes about that the proprietors have decided to return to general newspaper and periodical advertising. The way to create a demand for an article is to convince the public that you have a good thing to sell and that it needs it. How can this be done more effectively than thru the journal which makes a daily visit to the homes of the people who have money to spend?—*Fourth Estate.*

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PERSISTENT, PALPITATING AND PAINFUL.

"The following suggestions will be of value at this season: The pains of acute influenza are something indescribable, especially when associated with high temperature. To relieve these with some preparation of opium is only to increase the cerebal congestion and aggravate the extreme prostration. Sharp, darting pains are no more severe than are the dull, heavy and persistent pains in the muscles and bones, which so often obtain in this disease. Clinical reports verify the value of antikamnia in controlling the neuralgic and muscular pains, as well as the fever. In fact, antikamnia may now be called the *sine qua non* in the treatment of this disease and its troublesome sequelæ.

"It seems hardly necessary to indicate the conditions, when the use of two such well-known drugs as 'antikamnia and quinine' will be serviceable, nor the advisability of always exhibiting 'antikamnia and codeine' in the treatment of the accompanying neurosis of the larynx, the irritable cough and bronchial affections. Relapses appear to be very common, and when they occur the manifestations are of a more severe nature than in the initial attack. Here the complications of a rheumatic type are commonly met and 'antikamnia and salol' will be found beneficial. Antikamnia may be obtained pure, also in combination with the above drugs in tablet form."—*Medical Reprints.*

ACCIDENTAL WOUNDS OF THE FEMALE BLADDER.

BY FREDERICK HOLME WIGGIN, M. D., NEW YORK CITY.

Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Accidental opening of the bladder has, for many years, been considered one of the most serious accidents that could occur in the course of the complicated work which gynecic surgeons are often called on to perform. The following case is offered in illustration of this type of injury:

M. H., unmarried, æt. 41, was admitted to the City Hospital, Blackwell's Island, N. Y., September 30, 1898, suffering from a large myoma, which sprang from the anterior uterine wall and extended above the umbilicus. On October 3, the abdomen was opened, and the tumor, which weighed seventeen pounds, was drawn thru an incision six inches in length, freed from its attachments and removed, together with the body of the uterus amputated near the internal os. As hemorrhage was profuse it became necessary to remove the mass very rapidly, to accomplish which the anterior attachment of the tumor was clampt and cut, when it was discovered, from the escape of urine, that the bladder had been opened near the fundus.

The general cavity had previously been shut off with gauze pads and thoroly irrigated, followed by the use of Hydrozone in half strength, and this, in turn, by saline solution. The gauze pads were now changed, and the opening in the bladder, four inches in length, was closed by means of two layers of chromicized catgut sutures. The wound was then disinfected, and there being a large peritoneal flap, it was attacht to the bladder and made to cover the line of sutures, thus making the bladder-wound extra peritoneal. After further washing out of the abdominal cavity with Hydrozone and the saline solution the external wound was closed, without drainage, and the usual dressings applied. The patient being feeble it was not thought advisable to make a vesico vaginal fistula to drain the bladder, but, instead, a self-retaining catheter was introduced. At the end of ten days, however, tumefaction occurred over the lower angle of the abdominal wound, and, on opening it, urine began to escape. A vesico vaginal fistula was now made in order to afford adequate drainage. The sinus in the abdominal wall was curetted and, after being thoroly disinfected with Hydrozone, its walls were sutured. Soon afterward, the sinus having closed, the sutures which kept open the vesico vaginal fistula were removed, and the latter closed quickly without any further operative interference.

Percival (in *British Journal,* 1897, Vol. 1, p. 1282) reports a case of ruptured bladder on which he had operated. It was closed by means of a double wall of Lembert silk sutures. The wound in the abdominal wall was closed, after the peritoneal cavity had been flusht out with boric acid solution and a large quantity of clots and urinous fluids had been removed. For a few days the patient did well, and then died from peritonitis. But the necropsy proved that the bladder-wound had completely healed. It is the writer's opinion that had saline solution and Hydrozone been used, instead of boric acid, and the abominal wound been closed, leaving saline solution in the peritoneal cavity, the patient would probably have recovered.

GYNECOLOGICAL HINTS.

Erosions of the os uteri or granular os are a quite common condition and usually yield rapidly to appropriate treatment. After cleansing the vagina and cervix a strong solution of sulphate of copper, nitrate of silver or some caustic acid should be applied, and after the surface has been again cleansed a Micajah's Medicated Uterine Wafer is to be inserted in order to keep the parts in an antiseptic condition and to promote healing. Curetting is sometimes necessary.

Do not rely upon tampons as a means of prolonged application of medicaments to the vaginal and cervical mucous membranes. They are too often a delusion and a snare, acting as a foreign body and producing irritation, besides they are unclean and inconvenient of application. On the other hand a preparation like Micajah's Medicated Uterine Wafers accomplishes all that a tampon can do and is free from its disadvantages. Owing to its gradual solution the antiseptic and astringent elements of which it is composed are kept constantly in contact with the diseased mucous membrane, and thus a more permanent effect induced. Moreover, the wafers can be readily applied and intrusted to the patient.

The addition of antiseptic and astringent drugs to the vaginal douches is of questionable advantage. The main object of the irrigation is to cleanse the mucous membrane, and this can be much better attained by rendering the fluid slightly alkaline. After the irrigation the desired astringent and antiseptic effect can be efficiently secured by the insertion of a Micajah's Medicated Uterine Wafer.

Most cases of uterine displacements are too slight to demand operative measures, yet sufficiently troublesome and annoying to call for logical treatment. The most logical remedy here is one that will relieve congestion and engorgement, and increase the tone of the relaxed tissues. Micajah's Medicated Uterine Wafers are well adapted for this purpose by reason of their astringent, alterative tonic properties.

No greater error can be committed in gynecological practice than to underestimate the importance of a vaginitis. These cases are usually of gonorrheal origin and if not vigorously treated the infection is very liable to spread upward. To prevent this extension the vagina should be flushed out several times daily with copious amounts of hot water, and this followed by an astringent and antiseptic application, such as Micajah's Medicated Uterine Wafers, which on account of their gradual solution exert a prolonged effect upon the diseased mucous membrane.

ALCOHOLIC INSOMNIA.

Dr. H. P. Coile, Professor of Clinical Medicine, Tennessee Medical College (Merck's Archives), on the ground of an extensive experience with trional, covering a period of more than four years, states that in cases of insomnia and neurasthenia resulting from excessive use of opium and alcoholic stimulants and in those of kindred character, the remedy is a sheet anchor. Compared with morphine, trional is more certain to produce sleep, does not arrest the secretions nor the peristalsis of the intestines; does not produce constipation nor nausea, and is free from danger in any reasonable dose. There are no unpleasant effects; and the patient awakens feeling refresht. In the author's experience there has been no tendency to habituation. It is his custom to give doses of 15 grains to adults, which amount may be repeated in an hour if sleep is not produced. In cases of delirium tremens it should be given in rather large doses. It is in this condition that trional is of greatest value, but also in hysterical insomnia, and that resulting from overwork or nervous strain, and it is a remedy to be relied upon, and is seldom, if ever, contraindicated.

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